OUR CIRCULATION.

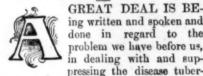
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Aggregate cepies for

### TUBERCULOSIS.

# its Prevention by the Use Individual Stalls.

OF GEORGE U. KINNELL, PITTSFIELD, MASS., MEMBER OF THE ROYAL COLLEGE OF VETERI-



ing written and spoken and done in regard to the problem we have before us, in dealing with and suppressing the disease tuberculosis among our dairy animals.

The wisdom and necessity of some

definite and radical course of action is admitted by every one who has taken the trouble to acquaint himself with the most ordinary features of the nature and prevalence of the malady. That it has existed among our cattle for a long time we know, and like a fire gathering strength as it spreads we know that of late years the disease has gained gigantic proportions, and is rapidly undermining and ruining the largest herds of our finest and most valuable neat stock. In this Commonwealth the past year

has witnessed the inauguration of a

campaign of extermination of the diseased animals, and so far as the work has progressed it has received the indorsement of a large majority of our citizens. So far so good. It is a first essential step towards our goal. But after all it is only one step. Of itself it is but a temporizing measure and gives us no assurance or hope of being even an approximately final settlement of the difficulty. Affected animals are by no means the only source from which healthy ones contract the disease. We still have a constant supply from the diseased human subject against whom no quarantine restrictions have yet been devised. With a continuance of our present system of housing stock and attending to them, if all the tuberculous animals in the State were killed and buried to-morrow, it would not be more than a few years before we would again have an appreciable amount of tuberculosis and in a few years more than that we would find ourselves in practically the same predicament we are in to-day. In order to be successful, the war against tuberculosis must be waged along the whole line; and until stock owners can come to realize the necessity of keeping their cows under entirely different conditions than at present obtain, and until the medical profession can educate the public mind to an appreciation of the necessity of applying to diseased persons a degree of quarantine at least approximately equal to that enforced against diseased cows there will be tuberculosis and to spare both among cows and among

In the suppression of this disease there are

THREE ESSENTIAL POINTS to be borne in mind.

1st. That we shall have reliable facilities for recognizing the disease.

2d. That we shall have the power to slaughter diseased animals when discovered.

These two points we can dismiss with a word. Our facilities for diagnosis are all but perfect. In tuberculin we have a test harmless to healthy animals, and as regards liseased ones not only wonderfully but fearfully exact. The power of slaughter we already have, nor need we fear it will ever be withdrawn.

But there is a third feature more important, far reaching, and practical than all the rest, a feature which as yet has hardly received recognition, far less the possible, or rather, I should say, those conditions which make the continuance of the disease an absolute certainty.

Of all the various much-talked-of hereditary predisposition, system of breeding, heavy feeding, forced milking, filth, bad drainage, or any of the many which can be mentioned, there is not to my mind one or half a dozen put together which in any way approach in harmfulness the injury which is caused by the almost universal system which obtains in the arrangement of the ordinary cow stall. It would baffle the ingenuity of man to contrive a system which would be better calculated to ensure the spreading of a contagious pulmonary disease. There the creatures stand shackled side by side and cheek to cheek, anchored to one spot week in, week out, month after month breathing and rebreathing the same air, coughing

to another requirement which is hardly ever observed, viz., the necessity of to some extent isolating the individuals of a herd from each other.

### IS IT CONTAGIOUS?

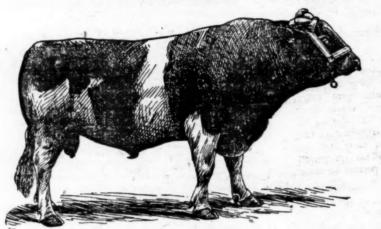
It is a common saying that tuberculosis is a highly contagious disease. I question the statement very much. My experience leads me fo believe that its range of infection is very limited indeed, probably not more than a few feet at the most. For instance, the spread of the disease among animals kept out of doors

them it was heated to a temperature of 65° centegrade. He concludes by say-

an infected herd, the two being separated by a wooden partition, and that this will prove successful even when the calves cases was a cow which had been exhibited from diseased cows are reared."

Prof. Bang thinks the reason that 10 per cent. among the presumably healthy animals were six months later found to be diseased was because the separation between the two portions of the stable is practically unknown; or, in other must have been incomplete. I am inwords, diseased and healthy animals can clined to think that in this he is prob-

German Cattle.



"Hector," a black-and-white Holland bull, imported as a calf, and now three years and 11 months old. Received a silver medal at the Berlin Exhibition.-From the Landwirtschaftliche Illustrirte Zeitung, Berlin.

has been a common experience with me in testing diseased herds with tuberculin. Let us suppose we have a herd of 75 cows in which the disease has been in which do not react is very nearly eight existence four or five years, and let us per cent. Consequently, the fact that suppose that 20 or 25 of these animals he found a number more on the second are diseased. We do not find the dis- and third tests is readily understood and eased subjects sprinkled promiscuously in no way invalidates the fact that ties it is never advisable to allow less through the herd, here one and there one. No, we find them in clumps and the spread of the disease in a herd.

The fact that ties it is never advisable to allow less the fact that the spread of the disease in a herd.

The followings and the fact that the spread of the disease in a herd.

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The followings and the fact that batches, here four or five standing side by side, and there eight or 10 stalls further along another batch of four or five more, with an occasional isolated case between. But let us go further and examine the members of each batch individually. On post-mortem examination we find that almost invariably there is in each batch one aminal in which the disease is very much more advanced than in any of the rest and the lesions of much longer standing. Is it not reasonable to say that the case of long standing is the animal from which the other members of the group received their infection? But the breath and infection from this creature were circulating all over the stable in common with the breath of all the other animals in it. If the disease is so far-reaching and infectious, why is it that it did not more generally affect the other members of the herd, and why so especially those in the immediate vicinity of the animal worst affected? Of course, in a herd where the disease is of very long standing and great extent, as, for instance, when 80 or 90 per cent. are diseased, and where healthy animals are the exception, this patchy, clumpy feature cannot be recognized.

### AN EASY PREVENTIVE.

In September, 1894, at a meeting of adoption of any adequate provisions for its correction, viz., the eradication of those conditions which make tuberculosis

The Epichics, 100-7, at a least the International Congress of Hygiene and Demography, held in Budapest, those conditions which make tuberculosis in Copenhagen, read a paper giving the result of an experiment made at the instance and expense of the Danish Gov-ernment, by which he demonstrated that causes of tuberculosis, whether they be the spread of tuberculosis in a stable could be prevented by such a simple device as the erection of a board partition between the diseased and the healthy animals. And it was not an experiment on a small scale either. The herd consisted of 208 cows of the red Danish breed, besides bulls, heifers, and calves. By the tuberculin test it was found that 80 per cent. of the cows, 40 per cent. of the bulls, and 40 per cent. of the heifers and calves were diseased. After a careful disinfection, the diseased and the presumably healthy animals were put at opposite ends of the stable and a wooden partition erected between them. This was done in 1892, and since then the healthy part of the herd has been tested every six months, in all four times. By and expectorating into each other's faces. the second test 10 per cent. reacted and What wonder that we have tuberculosis were at once put with the originally disin our herds and what marvel that it eased part of the herd; six months later they were again tested and only one It has been proved time and again animal in 107 reacted, while six months that once the disease gains a foothold in later the test revealed only two animals

herd together in the same pasture with ably in error. In all likelihood the comparative impunity. But, further, let me illustrate what I say by giving what first test, but required a second test to

### ISOLATION ALL-IMPORTANT.

Why cannot this system be carried to reater length and applied all round? Why not separate each cow from her neighbors by a partition running direct from the floor to the ceiling; or, in other words, have an individual stall for each animal? Over each cow's head let there be a ventilating shaft at least 18 inches square. These shafts could be so arranged that every four or six of them would run together into a common shaft to be carried up through

It may be argued that the isolation thus obtained would be very incomplete, that the poison-laden breath from a diseased subject could still pass back from the creature's head round the ends of the stall and up into the stalls of the adjoining animals. Very true, but the chances of its doing so, and the extent to which it would do so, are immeasurably lessened by the presence of the partitions and the ventilators; and, besides, in a stall of ordinary depth, before it could reach the next cow's head it would have to pass a distance of at least 10 feet, and this, as we have seen, is probably further than the disease germ can be carried free in the air and

retain its potency.

My first ideas of this system of construction were obtained from examining a cow stable on the farm of Mr. John Sloane, of Lenox. This stable measured 70 feet in length, 14 in breadth, and was seven feet from floor to ceiling. It was divided into 14 stalls. This gives a total capacity of 6,860 cubic feet, and after making allowance for partitions, approximately 480 cubic feet per animal. Not very large allowance surely. The stalls were so arranged that each animal was shut off from direct communication with those on either side by partitions consisting of double thicknesses of matched boards running right up to the ceiling. The stalls were also boarded ip in front, but running the entire length of the row and on a level with the cows' heads were folding-doors which opened downward into the driveway of the main parn, and through these doors the anibarn, and through these doors the ammals were fed. There were no special provisions for ventilation and the floor, being of wood, and old, could not be kept mals were fed. There were no special forget the necessity for general cleanliprovisions for ventilation and the floor, being of wood, and old, could not be kept more than moderately clean. And yet tops of the ventilators and be continued this herd, although it had been exposed to contagion, was by the tuberculin test found to be healthy. The history of it is both interesting and instructive. The 14 animals kept in this stable had been owned on the place for several years. All of the Summer and Fall of 1894 they went in the same pasture and in the this herd, although it had been exposed a herd it will progress as rapidly in the in 122 suspected of tuberculosis. The they went in the same pasture and in the

cleanest and best-ventilated barns as it will in the dirtiest and least cared for. I do not wish to be understood as decrying the necessity for cleanliness and ample cubic space, but I do claim that their importance is altogether secondary to enother requirement which is hardly to enother the calves from the diseased cows were, as some yards with six other cows which were brought from the State of New York. It was subsequently found that their importance is altogether secondary to enother the calves, but before being fed to the next their importance is altogether secondary. "It therefore seems to me to be demonstrated that it is possible to rear a healthy herd on a farm where there is an infected herd the tree here is cases was a cow which had been exhibited and had taken a first premium at the World's Fair, and must have been far gone with the disease at the time of her

> This feature of having individual stalls for individual animals ought in the construction of a stable to take precedence over every other considera-tion. While the plan I have suggested is open to criticism on the ground of not being complete enough, yet it is probably as complete as is practicable, is an immense improvement over any other system in general use, and has to recommend it the facts that it can be applied to any of the stables at present in existence, and that at a comparatively trifling

### In regard to the matters of AND DRAINAGE,

there seems to be among stock owners no clear conception of what is fit and scessary. The whole matter seems to be in a state of fog and chaos and the good features which are occasionally met with seem to be more the result of chance and whim than of well-directed

found from examination of 12 dairies in the vicinity of Boston that the average cubic space per cow was 322 cubic feet, and this may be taken as a fair average all crops and in all soils, but is worst in sundy or loose friable soils which of the cow stables throughout the State. Of course the amount of cubic space necessary varies very much with the effectiveness of the means of ventilation, but even with the best ventilating facililowance of 200 or erring at all, be doing so on the safe

In arranging for ventilation, the features to be provided are a sufficient destroying the horse nettle. Clean culopening overhead to let heated foul air tivation and grubbing or spudding out, a sufficient opening underneath to admit cold pure air, and allowing the laws of specific gravity to do the rest. A shaft 18 inches square over each stall will be sufficient for the first requirement. The best way to admit the fresh air is by the medium of large pipes laid underneath the floor open at both ends outside the building, and communicating with the interior of the stable by means of upright pipes set on at regular intervals, running up through and projecting an inch and a half above the level of the floor. For a stable containing, say, 15 animals, the underground pipe should be three feet in dameter and should bear four upright pipes each two feet in diameter, covered with a suitable grating. The openings should occur in the floor behind the rows of stalls. This insures a constant supply of fresh, cool air and does away with the danger of the much dreaded draft. The projection of the upright pipes above the floor prevents them acting as drainage mediums, and the size of the underground conduit enables a person too pass through and make a periodical cleansing.

HAVE ALL THE LIGHT POSSIBLE. The consideration of light is also an mportant one. It is an ascertained fact that the bacillus of tuberculosis when exposed for a few hours to direct sunlight dies, and it is also true moderate light while not killing the bacillus will yet so vitiate it as to render it much less potent

in causing disease.

In a stable it is hardly possible to have too much light, and while it should not be allowed to strike directly in the creatures' eyes, it should be so arranged as to completely flood each stall. The floor ought to be unter-tight and provided with cutters. vided with gutters. The whole interior of the stable should be constructed of materials easily cleaned and washed. An ideal stable sught not to have any

overhead storage.

In addition to all these we must not

tuberculosis can be waged.

### WEEDS.

### And How to Kill Them.

BY LYSTER H. DEWEY.

(From Bulletin, United States Department

HORSE NETTLE (Solanum carolinense). The horse nettle is native in the southastern part of the United States, as its specific name indicates. It is now found in nearly, all of the States east of the Missouri River, and is slowly increasing its territory. As the seeds are seldom found as impurities in commercial seeds, and as they have no special adaptation to aid in distribution except that the berries are sometimes eaten by birds, the horse nettle spreads rather slowly. When it has once obtained a foothold however, it ranks among the worst weeds

of this country as regards difficulty of

eradication. It is closely related to the common potato, which it much resembles in its white or purple flowers and yellow berries. The plants are 6 to 20 inches in hight, loosely branching, rough, with short, stiff hairs, and armed with yellow prickles. (Fig. 4, a.) The leaves CUBIC SPACE, VENTILATION, LIGHT, are oblong and irregularly lobed like those of the white-oak. The midrib and larger veins bear prickles like those of the stem, but smaller. The plant is reproduced by the seeds (fig. 4, c, d), which are borne in the berries, and it is abundantly propagated, also, by slender

perennial rootstocks.

The horse nettle is not eaten by any and intelligent plan.

The Board of Health regulations of the City of Boston as applied to dairies require the allowance of 1,000 cubic feet pubescent foliage. Ordinary cultivation has comparatively little effect on it, per animal. Dr. Parker, of Haverhill, kind of farm stock, even when dried in sandy or loose, friable soils, which are easily penetrated by the long rootstocks.

The production of seed may be prevented by keeping the plants mown. The rootstocks must be killed, however, in fact, the methods which are most successful in destroying the Canada thistle may be used with advantage in sufficient to prevent any development above ground will starve out the rootstocks. Oats, barley, or millet sown thickly on well-tilled land will weaken the rootstocks, preventing much growth above ground. Immediately after these crops are harvested the land may be plowed and then harrowed frequently until time for sowing erimson clover or Winter rye. This will induce the germination of weed seeds, and at the same time expose some ot the rootstocks to be killed by the sun. Crimson clover, hairy vetch, rye, or Winter oats may be sown to choke down the growth of horse nettle and other weeds during the Fall and early Spring, to furnish Winter pasturage, and then to be plowed under



FIG. 5.—BUFFALO BUB

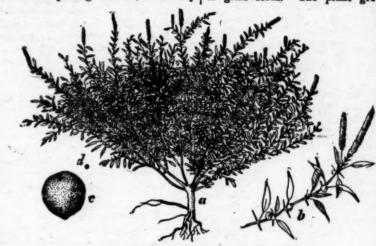
as a green fertilizer. A hoed following, if kept well cultivated, will clear out most of the remaining weeds. The plowshare used in these operations should be kept sharp, so as to cut a clean furrow, otherwise the rootstocks are likely to be dragged and scattered about the field.

BUFFALO BUR (Solanum rostratum). This plant is also native in this country. originally growing on the Western plains, close to the mountains, from Mexico northward. It was doubtless spread to ome extent by the buffaloes, as it has been found along the buffalo wallows. While the horse nettle has been slowly

now found in many States east of the Mississippi River, and has even crossed

lance-ovate, smooth, about one and Mississippi River, and has even crossed the ocean, threatening to become a troublesome weed in Germany. It is related to the potato, and closely resembles the horse nettle, but its spines are stouter and more abundant and its flowers are yellow. Instead of the smooth, yellow berries of the horse nettle and potato, moreover, it has spiny burs, somewhat resembling those of the burdock at first, but developing at maturity into nearly spherical, spiny balls, filled with black, irregular seeds.

(Fig. 5, c, d.) These burs, becoming half inches long. At the base of the (Fig. 5, c, d.) These burs, becoming might be found in clover seed, millet,



scattered. The plant has a lighter, broken ground like other amaranthe, more bushy habit than the horse nettle, but, unlike most of them, it also grows and is often blown about as a tumble-

weed in the prairie region.

It is an annual, easily subdued by preventing the production of seeds. This may be done by mowing as often as the yellow blossoms appear. The seeds are less abundant than those of



FIG. 4.—HORSE NETTLE.

most of the bad annual weeds, and they are not often ripe, at least in the northern part of its range, until after the hurrying work of harvest is over. The buffalo bur is seldom troublesome in fields where thorough cultivation is practiced. The seeds may be expected as impurities in alfalfa and clover seed grown in the West. So far as known. however, in the East this weed has appeared in waste places in cities and towns and has spread thence to the surrounding farms.

In this respect the buffalo bur is typical of a large number of introduced weeds, which are neglected on the waste land in villages and cities where they do no direct and manifest injury. The Canada thistle and spiny amaranth are growing on many vacant lots in Washington. The prickly lettuce first became abundant in Michigan and Ohio in the cities of Detroit and Toledo. The Russian thistle is now growing unchecked, save by the occasional tanical collector, in many localities in and about Chicago. Similar instances might be multiplied; in fact, probably the majority of the cities and towns of this country are harboring noxious weeds which should be destroyed in simple justice to the farming communities which aid most directly in supporting the prosperity of these

SPINY AMARANTH (Amaranthus spinosus).

The spiny amaranth, or prickly careless weed as it is often called, is native in tropical America, and seems to have been first introduced into this country along the southeastern coast. It is now more or less abundant in most of the States south of the Potomac and Ohio Rivers, and is spreading with considerable rapidity. It resembles the common tumbleweed (Amaranthus albus) and of not less than 2,000 pounds other amaranths or careless weeds of receive a rebate of one-fourth of their the neglected cornfield and garden. It assessed highway tax, the rebate not to is an annual with a succulent stem, exceed five days' labor on the roads in branching profusely throughout and at- any one year. This is only a modest traveling westward the buffalo bur taining a hight of 15 to 30 inches. step in the maintenance of good roads has been working eastward until it is (Fig. 6, a.) The leaves are dark-green, but nevertheless one to be commended

attached to passing animals, are readily or grass seeds. The plant grows in

and even spreads aggressively in strong blue-grass sod. No farm stock will eat it, at least after the spines begin to develop.

Like other annuals it may be subdued

by preventing the production of seed.

It would readily succumb to thorough cultivation, as it grows rather slowly at first and does not produce seed until Midsummer or later. Mowing or grubbing up the plant before the flower spikes develop is probably the best method of eradication in permanent pastures. Po-tato land and corn-stubble may be plowed or thoroughly disked after the crop is harvested, and a Winter crop sown which will keep down the weeds

Westward Ho! EDITOR AMERICAN FARMER: II

Mrs. Harry Tappan, of Reynolds, Neb. and Mr. Peter Fraley, of Johnstown, N. Y., who inquire for cheap farms in Maryland in July number of THE AMERICAN FARMER, should desire to escape from the Arctic region where they now live and turn their eyes to our sunset land of Summer throned by the great Pacific Ocean, they can homes that cannot be equalled in any other land on earth so far as markets, soil and climate are concerned. The lowest point registered by the thermometer here last Winter was 23 above zero. Here we have but little snow, no thunderstorms, and a failure of crops was never known. Land, owing to the hard times and so many people having mortgaged their farms previous to the "sound money" crash, can be bought at one-fourth its real value, in some cases less than the improvement

The writer is not a real estate agent, and has no desire to boom other people's property. Still, he deems it a duty to let people who desire homes know where such can be found in a land whose climate and resources are unequalled on earth.-W. A. PERRY, Secretary Sumas Valley Horticultural Society, Van Buren, Wash.

Impurities of Clover Seed. The Ontario Experiment Station has examined a large number of clover seeds and finds that some samples contain as high as 4,540 weed seeds in one-half ounce of clover seed, while others show as low as one weed seed to one-half-ounce of clover seed. Its list is quite complete, and somewhat startling in respect to the impurities which it contains, although the

great bulk of the samples tested showed ess than one per cent of weed seed. The investigator states that if seed are scattered upon a piece of black card-board the foreign grains can be easily detected. The vitality of the samples tested, in a great proportion of cases, stood above 90, and that in only one or two cases did it run markedly low.

Wide Tires in Pennsylvania.

A law known as the Harvey act has been passed by the Legislature of Pennsylvania, with the object of promoting the use of broad tires on heavy wagons. It provides that those owning and using draught wagons with tires not less than four inches in width for hauling loads



Yard Echoes. The feeding of beef cattle upon farms promises to become as profitable a pur-

muit as it ever was. The foresighted farmers who have now good reward in sight.

Dr. Galen Wilson says: "A slim tail in a beef animal has been considered an evidence of improved breeding; a slim tail also means a slim spinal column, and the latter tends to weaken the entire animal."

Steers fed in Summer on grain and coarse fodder gained in weight two and a half times faster than steers at pasture. Charging 40 cents per week for pasturage per head made the cost of feed to produce a pound of live weight about seven and a half cents compared to eight and three-fourth cents for the soiled steers, including their fodder at full market prices. But the manure in the latter case was worth three and threefourths cents, making the net cost five cents per pound gain. If the manure equals the cost of attending to the fed steers, Summer soiling appears to be as cheap as pasture. This is the final result of five years' work with the steers at the Massachusetts Experiment Station.

### FATTENING PIGS.

### Experiments with Corn on the Cob and Cornmeal.

The New York Experiment Station took eight pigs, Poland China-Duroc cross, weighing about 110 pounds each. which were divided into two lots with two sows and two barrows in each. Both mixture (five parts wheat bran, three of duced. cottonseed meal, one of linseed meal, and one of middlings), and in addition one lot had all the ear corn it would eat and the other lot had an equivalent amount of cornmeal. Eighty-nine per cent. by weight of the ear corn was kernels. The trial lasted from February 13 to April 17, being divided into two periods. The average results follow:

Food	daily gain	Food eat- en per 100 lbs. live weight per day.		te	food per	
1	Average in weig	Total.	Dry matter.	Dry mati per p gain.	Cost of pound	
Corpmeal: First period Second period	70	Lbs. 2.48 2.21	Lbs. 2.06 1.84	Lbs. 2.75 2.63	Cents 8.43 3.26	
First period Second period	56	2.65	3.27 1.90	4.05	4.11	

In estimating the cost of food corn is rated at \$15 and cornmeal at \$20 per

weight for lot E was 173.4 pounds and for lot F 155 pounds. The gain made The £57,384 he won during his career by lot E cost for the first period 16.5 per of four years were made in only 12 that hoofs and horns kill a good many the sheep owner, directly or indirectly, cent. less than that made by lot F and races.
during the second period 17.7 per cent.

"It appears that there was upon an average 7.2 per cent. more fat recovered in the milk than was digested in the food fed."

The total and digestible fats were calculated from average figures for composition and digestibility of the feeding stuffs used. It is calculated that had the percentage of digestible fat in the concentrated food been 0.38 per cent. higher "it would have been sufficient to meet all the demands upon the animals for the fat produced in the milk and the increase in live weight of the animals during the trial."

### Summer Pigs.

The most profitable pigs are those born in March or April; next to them are those that come in June or July. But it is not so much in the pigs as in the management of them that the profit during the Summer nights is a costly is made. Early Summer pigs may be ted on clover pasture and the plentiful akimmed milk, with a little grain food, so as to make a live weight of 150 pounds at the end of three months and 200 at the end of one month more. Later pigs will cost a little more, on account of the heat of the weather, which in not favorable to high feeding as the cooler Spring is. But if fed on early green, crop, as peas and oats, and finished on the second growth of clover and the nilk, and finished on the soft corn, they nay make an average of 200 pounds by slaughtering time, and thus pay an xcellent profit. The money is now nade from pigs that are not wintered ever, only the brood sows and the boar being fed over, and by the good management by which the sows bring two litters In the year.

### Peeding Mill Wastes.

The wastes of a custom mill are very good feed for cows and swine, but not for horses. Horses need the best of food and the least of coarse indigestible matter of all animals. Thus, oat hulls and buckwheat should not be given to horses, while for cows they may serve a good purpose. Pigs will pick out the best part of these wastes and grow well on such food, as is shown by the common adage that a miller's hogs are always fat. For cows or sheep, these waste matters may be fed in the proportion of one-third as much as of hay, and less grain will be needed, on account of the farge quantity of broken and small lent litter, when it can be procured free

# Lockiaw is Contagions

Tetanus, popularly known as lockjaw, is an organismal disease, and the drum-stick-shaped organisms are very widelydistributed. They are found in most held on to their breeding cattle have soils, especially in garden mold, the how good reward in sight. road-sweepings, both in town and country. Mr. Bossano, a French observer, obtained soil from 43 widelydifferent localities in Europe and America, and in 27 of these obtained evidence of the bacillus by inoculating white mice and guinea pigs, both of which are particularly susceptible to the disease. A solution of a soil from Bath. England, is recorded to have caused fatal tetanus in 66 per cent, of the white mice into which it was injected. These destructive bacteria being present in so many soils, it is no wonder that injuries about the feet of horses sometimes lead to lockiaw. Judging from the notorious prevalence of tetanus in some districts in Ireland, it may be presumed that the soil is freely impregnated with these bacilli; or that practitioners and attendants specially neglect antiseptic precautions, and thus implant the organisms from their dirty hands, instruments, or other appliances. Whether the tetanised animal or the bacilli-infected soil was the primary cause of tetanus is a question as hopeless to determine as the priority of the egg or the fowl. Experiments have demonstrated that

dust, or solutions of soil containing tetanus germs, or artificial cultivations of the bacillus placed upon the sound skin are innocuous; but when injected into the tissues, or brought into contact with an abraded skin or mucous surface, lots received the same amount of a grain | the characteristic tonic spasms are pro-

### Vaccinating for Anthrax.

Last month Veterinary Surgeon Richard W. Hewitt vaccinated livestock in the lower part of York County, Pa., for anthrax with lymph from the heavy losers from the disease, are anxiously looking to this as a preventive.

Stable Talk.

Of course, it will not pay to raise horses-that is, scrubs. But it will pay and pay well, to breed first-class animals

ought to be wide and deep on short, hard, flat legs, well-developed forearms and thighs, big, sound hocks, and big, round feet, springing from wide, clean coronets, with strong heels and big

Isinglass, Mr. McCalmont's great race horse, who is about to be put to the highest price ever asked in England.

The latest reported pacing phenomenon hails from northern Iowa. Richmond is his name, a chestnut two-yearold, by Elwood, scarcely broken, and is stepping eighths in 16 and 17 seconds. He is being trained by his owner, J. E. Goodrich, at Spencer, Iowa.

The horse-canning factory on the Columbia River is now in full operation. It is said that experts declare their inability to distinguish between canned horseflesh and canned beef; but it is not explained, as might be inferred, that this fact will be relied on to secure sales for the product.

The pestilent stable fly will not be troublesome in a clean stable in which some insect powder is blown about late in the evening; it is well to dust it on the furniture and walls, as well as to blow it in the air. The frequent restlessness of the tired horses in their stable drawback to their usefulness in the day,

To clean out the feed boxes in the horse stable every day will be time well spent. The leavings of cut feed will sour and become offensive to any animal, and, worse than this, it will be productive of diseases of various kinds. It is a good plan to have a small shovel, such as is used with the kitchen stove, for this work, gathering the uneaten food daily and giving it to the pigs, which will dispose of it profitably.

Bryon McClelland has sold to Charles Fleischman & Son, of Cincinnati, his three-year-old black colt Halma, by Hanover; dam Julia L., by Longfellow, for \$25,000. Halma won the Latonia Derby at Cincinnati, Thursday, May 23. and will run in the National Derby

at Chicago. A good thing to do for the horses is to give them a sponging every evening after the day's work is done; this is to be followed by a good brushing with the brush wet with some liquid that is offensive to the stable fly. The kerosene emulsion is excellent for this use, and will insure the horses a good night's rest. But the bed should be clean, or the cleaning of the skin is wasted time. Hardwood sawdust is the best litter for the Summer, and it is not objectionable in the cow stable, either, but quite the contrary. It is without objection, too, justify the raising of wool even in one in the manure, which is not the case with section or neighborhood, to say nothing in the manure, which is not the case with the sawdust of the soft woods. The waste bark of a tunnery is also an excel-

### SHEEP AND MOOF.

Shearings.

Consider the present price of sheep, the rapidity with which a lamb grows, and then think, if you can, of any cheaper meat for the table.

With a single exception—that of the dog—there is no member of the beast family which presents so great a diversity of size, color, form, covering and general appearance, as characterizes the sheep, and none occupy a wider range of climate, or subsist on a greater variety of food.—JENNINGS.

A big sheep ranch, which is some-thing of a novelty this side of the prairie States, has just been established near Conshohocken, Pa. A pale and wire fence inclosing an area eight mile in circumference has been erected, and the fences inside this area making former fields removed. A thousand sheep are to be turned into the inclosure for wool-growing purposes.

The character of the sheep that make the character of the men who are rushing out of the business. There are unwritten lessons in all these things and the thoughtful man finds promise of a future with the sort of a sheep that can't stand free trade, the great bugbear of the American sheep farmers. It is safe to conclude that the type of a sheep that can stand the threat, the alarm of free-wool, can stand the thing itself when it comes. So there is comfort in finding in the stock-yards the very sort of sheep that intelligent farmers, by selling, be lieve incapable of standing the strain.

The experiences of the past and the the future; history always repeats itself; astrade and commerce improve the classes of sheep that now suffer the most will have an increased popularity until hard times again return. Sheep are like men all are prosperous in good times and a part so all the time. "He that has ears to hear let him hear."

The question of pastures is begin ning to attract closer investigation than formerly in this country. It is believed that more direct results can be obtained than has been found hitherto. Permanent pastures have been over-estimated, especially on lands that have been heavily stocked. The dry weather that annually occurs destroys the plants and lessens the yield of feed. "It may be laid down as a maxim in farming, that no grounds should continue in grass Pasteur Institute, New York. Many until they become hard, bound, or confarmers in that section, having been solidated, and the roots become old and matted."

The plow should become a factor, where the land will admit of plowing, in the improvement and culture of pasture lands. The improved fertility that naturally comes to pastured lands and the decay of grass roots can only be made available by the frequent use Mares to breed good, heavy horses of the plow. As to how long the land should be occupied by other crops depends upon circumstances, but grasses should become a part of the rotation where the lay of the land will admit of it. At Baggs, Wyoming, F. H. More-land clipped 356 sheep in 10 hours, breaking the record of all rapid shear-

ing. When the American sheep farmer has lambs from hogs; when he has learned ternal parasites, which hinder and de- a market for this kind of stock. stroy hundreds of thousands of sheep every year; when the lessons of cheap without wasting food, it will not be sur- marked. prising if it is discovered that sheep have been depending on "legislative has been too many leaks neglected, too many losses that could have been avoided, too much kicking about unprofitable

sheep husbandry. Has sheep raising been over-protected? It is said that a committee of Ohio wool growers have decided that it costs 40 cents a pound to raise wool in the United States. It is possible that it costs half that much to raise wool in some sections of Ohio, and that all of it is unfair to say it costs the same in Colorado, Wyoming, and Montana that it does in Ohio, freights thrown in, to grow a pound of wool. It is unfair to say it costs the same to raise wool in Montana that it does in southern Georgia, where neither pasturage nor herding costs one cent a head per year. It is estimated, though, that wool can be grown at a profit in the "piney woods" of the South at seven to eight cents per pound. It must be remembered that climate, cost of land, the price of wages and feed are conditions governing the cost of production everywhere, and these differ widely in the different sections of this broad country. It is this that causes some parts of the country to abandon wool raising, and causes others to complain of hard times. It is impossible to set a price on the average cost of production. Ohio farmers are able to state what it costs them; Illinois has a price on the best lands, but right alongside is found cheaper conditions where wool growing costs less than half what it does on land adjoining, and so it is in all the graingrowing States of the Union. Besides this difference in land values, one man

States. Some farmers lose enough sheep by diseases, dogs, and others by weather, to Hood's Pills Price 25 cents.

will be found in a neighborhood who

has the skill to grow wool cheaper than

his neighbors; so there it goes again, and

it is hard to say just what price will

of the average of the whole of the United

turn the scale from profit to loss, often overwhelmingly so. These losses can be avoided, but they are not taken account. Lands are cheap, from \$2 to \$5 per of in very many cases, hor are precautionary steps taken to prevent them in thousands of instances. The farmer guesses that he has made no money, and the pet politician makes him believe he does not get a fair share of protection before the law. Too many farmers consult the politician instead of the ledger to find out how their business stands, and thus they live in continual hot water and discontent. This subject must be an individual question, and not a politi-cal one; to be decided by facts, and not the ballot box; by the farmer, and not his political party.

Sheep in Southwestern Georgia. Sheep raising is conducted very differ ently from what is known to the people of any other section in the United States. The profits on sheep raising vary more with us than you would suspect, and more than is necessary, due to causes that might be controlled under some systematic sheep husbandry. The range up the rush in the stock-yards indicate of prefit runs from 10 per cent. under no management at all, to 25, 50, and occasionally 100 per cent, on capital in-

vested. The prime object in keeping sheep is wool, and old sheep, when fat off the native pastures—the woods—are sold for mutton.

The sheep are natives, sometimes called piney-woods sheep, crossed slightly with the Merino grade. These sheep are worth from \$1.25 to \$2 per head. The wool is sold in nearest town to the merchants. Sheep are sheared in early Summer. The early lambs are not shorn, though half a year old, often more, and the wool is gotten the next year. The wool is sold unwashed, and weighs from three to four pounds per fleece, owing to the season and pastures.

Lands sell at from \$1 to \$5 per acre. The surface is generally level and just rolling enough for drainage. The uplands are sandy soil, while the valley of Flint River is a limestone soil, and well watered generally, but the water is, of course, hard. Almost all the sheep raised in this section are turned into the range-woods-where they live the whole year upon the wild grasses, wild oats, and wire-grass, etc. When shearing time comes, the flocks are hunted up, surrounded and driven up to be sorted to each owner and sheared; the lambs castrated, docked, and marked, when all are turned loose to run in the woods until wanted again at shearing

time next year.

Our lands are perfectly healthy and sheep seldom die, of any diseases. The greatest hindrance to wool growing is the dog curse. The dog is about the only animal that, kills sheep here. The piney-woods hog is notorious for devouring the new-born lambs and an octhe loss from dogs may be from five to 10 per cent, often less, owing to the proximity of turpentine camps with their hordes of coon dogs owned by the negroes who work in these camps. We have no other serious hindrances to sheep raising in this part of Georgia.

a "squatter" gets enough hogs to be a of the sheep. damage to the sheep, which in too many cases is regarded by the squatter as learned to protect his flock from dogs, his privilege whereby his hogs find a living in the Winter and early Spring months, sheep during the year; when the feed, buys the entire hog stock and has them water and shelter are sufficient to keep killed to save the lambs. The squatter the sheep in strong, thrifty condition as is suspected of raising hogs to become a will protect them from external and in- nuisance to sheep owners, and thus secure

Sheep are sometimes put out on the shares, and the owner gives one-third of feed, early maturity, ripe fitting for mar- the wool and increase to have them ket and selling at the point of ripeness looked after, gathered up, sheared, and

All this will seem curious to you who raise sheep in fenced pastures and give protection" too much, and "self-protection" too little. It is a fact that there and feed them dry feed six months of the year. Such is the advantage of a mild, genial climate with the entire absence of snow and Winter storms, where the feed question has not the least importance, that what wool we get may be said to absolutely cost no more than the price of shearing it off the sheep's back.

the soil as the deer that still abounds in some parts of the woods, which, too, it resembles in some of its semi-wild ways of them want 40 cents for their wool. But, life. With this hardy, self-reliant, selfsupporting, valuable sheep, and the possible cheapness of its support, the woo growers of southern Georgia are the most independent and prosperous sheep raisers in all Christendom.-NELSON TIFT.

The native sheep is as indigenous to

### Stock Raising in Western North Caro-

I lina. I have traveled over the United States to some extent and seen much of the country from New York to Louisiana, and do not hesitate to say that, in my opinion, there is no section so well suited to sheep husbandry as the mountains of western North Carolina. These lands are high and dry, free from the rigors incident to the same ranges further north. The mutton here is as fine as can possibly be made on any feeds in the world. There is no reason why wool growing should not be equally successful. The grasses grow to perfection, the water

# Impure Blood

Manifests itself in hives, pimples, boils and Manifests itself in hives, pimpies, boils and other eruptions which disfigure the face and cause pain and annoyance. By purifying the blood Hood's Sarsaparilla completely cures these troubles and clears the skin. Hood's Sarsaparilla overcomes that tired, drowsy feeling so general at this season and gives transfer and vivor. strength and vigor.

Hood's Sarsaparilla Is the only true blood purifier prominently in the public eye to-day. \$1; six for \$5.

acre, and good markets both north and south. There are no diseases to which animals are subject, except occasionally cholera among hogs, and this has nearly ceased in this section.

Sheep really need no attention in Winter, except for a day or two at intervals during Winter when snow falls. We rarely have more than one or two snows of any importance during the Winter months, and they do not last but a day or two as a usual thing. During these showstorms sheep need some attention, nor do they always receive the very little they require even Though a Democrat, I am with the

Republicans on the tariff question, for no other reason than that we have the best wool-growing section in the United States, and in the whole world, in my opinion. If this section was better un-derstood I am sure that Northern capitalists who are familiar with sheep husbandry would place their money here to better advantage than on the Western and Northern ranges. I am sure the time will come when these things will be looked into more carefully, and sheep raising will become popular on these mountain plateaus and charming valley lands, where nature has been so lavish of advantages not equaled, certainly not surpassed, anywhere. I regret that better information of this section has not been widely and persistently disseminated among the people of the North. If it were I am sure the intelligent young men who annually emigrate to the Western plains would come here, where they could be more prosperous with one-half the labor and far less risks and uncertainties. Send such men down here to see for themselves.—NATHANIEL ATKINSON, Asheville, N. C.

### Jumping Sheep and Cure.

Poor fences will be apt to teach sheep to jump and climb where they are not wanted. This is a most provoking and annoying habit. The remedy for all this is not so easily found save in the building of immoderately high fences or killing the intruders outright. One jumping sheep will teach the trick to a whole flock in a very short period of time. Where the leader in this habit is too valuable to be sacrificed there are various ways of restraining the animal, such as hobbling, clogging, yoking and poking as follows: Hobbling is done by tying (a broad soft leather strap is best) one fore-foot to a hind-foot, at about the natural distance apart. Clogging is done by fastening a billet of wood to the fore-leg. It need not be a very heavy weight to restrain a sheep from jumping or climbing a fence, ditch or wall. Yoking is done by fastening casional old or weak ewe. Some years two rams two or three feet apart, by bows around their necks, inserted in a light piece of timber such as a two by four pine scantling. Poking is an old and usually effective way of preventing farm animals from having more liberty than is convenient or desirable. It is done by inserting a bow in a short bit of light The remedy against dogs is poison and the rifle. Hogs are often shot as a under side of the neck, a rod is inserted timber, into which bit, worn on the common nuisance in the woods. When which projects a couple of feet in front

I do not claim to stand in line with our good farmers, much less with our first-class dairymen, but still I have my own notions of cleanliness in the cow barn. Before each milking, all manure, solid or liquid, is removed to the outside of the building, the floor well dusted with earth or sawdust, while a blast of fresh air, hot or cold, sweeps all foul odors where they will not contaminate the milk. A man who milks his cow over a gutter full of steaming slush, in a warm stable, ought to be banished beyond the pale of civilized society. Think of it; every stream of milk goes to the bottom of the pale, followed by a portion of the foul air-you can imagine the rest.

We boast of being a progressive people, but the Dutchman is ahead, clear out of sight. He makes his cow floors and gutters of solid cement, fills his barn with fresh air, and washes his floors with clear water before each milking, running all the dirty water to cisterns outside of the building, where it is kept for use in sprinkling the grass land .- J. H. SMITH, Gray, Me.

### THE MARKETS.

Produce.

Produce.

New York, July 30.—Live Poultry.—Supplies were moderate, and the market ruled steady, with a fair demand. We quote: Fowls, hens, Ilial2; old roosters, 8; Spring chickens, weighing 3to 4 pounds per pair, at East per pound; do smaller sizes. 19a11.

Dressed Poultry.—Receipts were light, and there was a fair demand for fowls and for large-sized Spring chickens at steady prices. We quote: Fowls, choice, 10a104; do fair, 2049. Western brollers, weighing 3 to 4 pounds to the pair, 14a15 per pound; do smaller sizes, 10a12, as to quality; near-by broliers, weighing 3 to 4 pounds to the pair, at 15a15 per pound; do smaller sizes, at 11a13 per pound.

Butter.—Receipts, 340 tubs, 500 boxes. The market was quiet, but offerings of fancy Western creamery were light and prices ruled steady. Faulty qualities, which comprised the bulk of the susply, moved slowly, and prices of these ruled in buyers' favor.—Prints ruled steady and receipts were well cleaned up. We quote: Western creamery, fancy, 18; jobbing selections, 19; do fair to prime, 15a17; imitation creamery, 13a14; ladie-packed, 11a12; Pennsylvania and Western creamery prints, fancy, 20; exceptional lots higher: do fair to choice, 17a19; prints jobbing at 21a24.

Eggs.—Receipts, 66 barrels, 2,000 cases. There was a good outlet for the limited offerings of fancy fresh stock, prices of which ruled steady. Offerings, however, were largely of inferior and of mixed heid and fresh eggs. which were dull and irregular.—We quote: Pennsylvania and other nearby-by and Western strictly choice at 13; do, fair to good, 12a12. Recrated eggs were jobbed out 12 above wholesale prices.

Cheese.—Receipts, 1,040 boxes.—There was a fair demand for choice, 74a8; do, fair to good, 7a7i; skims and part skims, 2a6, as to quality.

Green Fruits.—Apples and para were in excessive supply, and the market was weaf and irregular under a light demand. Receipts of peaches were fairly liberal and oholoe fruit sold readily at firm prices. Inferior and premature fruit, however, was hard to move,

mostly of poor quality, but choice fruit sold fairly at steady prices. Berries were in fair supply and demand at quotations. Southern grapes were mostly of poor quality and moved slowly. We quote: Apples, Hed Astrachan, per 4-bushel crate, 25a40: windfalls and green, per terate, 10a20: windfalls and green, per barrel, 5ca 85; whartleberries, per quart, 4a6; blackborries, Wilson, per quart, 5a3; Early, Harvest, ner quart, 4a5. Peaches—Delawars and Maryland Troths, per 4-bushel basket, 30a80; Delawars and Maryland St. Johns, per 4-bushel basket, 40a60; Delawars and Maryland St. Johns, per 4-bushel basket, 40a60; Delawars and Maryland St. Johns, per 4-bushel basket, 25a40; North Garolina and Georgia, per 6-busket basket, 10a175. Fears, near-by, green, per basket, 55a50; Wateruwolous, Southern, per 10a, 5ulticantaloupes, Southern, per barrel, 50a51.25; do Jersey, per basket, 50a75; grapes, Southern Black, per 10-pound basket, 20a36.

Vegetables—Supplies of potatoes were liberal, and the market was weak with only a moderate demand. Onlons were plentiful and hard to move. We quote: Potatoes, Southern, per barrel, 25a250; onlons, per i-bushel basket, 10a16; sweet potatoes, Southern, per barrel, 25a250; onlons, per i-bushel basket, 60a 70; do per barrel, 1.25a1.50.

Beans and Peas.—Demand for beans was light and prices were weak under general pressure to sell. Green peas were quiet but steady. We quote: Marrows, bright, H. P., 1894, choice, per bushel, 1.70a1.80; ima beans, flat, P. p. 1894, choice, per bushel, 1.70a1.80; lima beans, flat, P. p. 1894, choice, per bushel, 1.70a1.80; ima beans, flat, P. p. 1894, choice, per bushel, 1.70a1.80; lima beans, flat, P. p. 1894, choice, per bushel, 1.70a1.80; lima beans, flat, P. p. 1894, choice, per bushel, 1.70a1.80; lima beans, flat, P. p. 1894, choice, per bushel, 1.70a1.80; lima beans, flat, P. p. 1894, choice, per bushel, 1.70a1.80; lima beans, flat, P. p. 1894, choice, per bushel, 1.70a1.80; lima beans, flat, P. p. 1894, choice, per bushel, 1.70a1.80; lima beans, flat, P

### Live Stock.

Live Stock.

New York, July 30.—Beeves—No trading of any importance; European cables quote American steers at 11a13 per pound, dressed weight; refrigerator beef, \$a9i; exports to-day, 600 beeves, 1,49i sheep, and 2,116 quarters of beef.
Calves—Quiet at former values; veals, poor to prime, 4,00a6.50; grassers and buttermilk calves, 225a3.37i.

Sheep and Lambs—Sheep steady; good to choice lambs firmer; others a shade easier; sheep, inferior to choice, 3,50a3.90; lambs, inferior to strictly choice, 4,75a6.25

Hogs—Steady at 5,80a5.50.
Chicago, July 30.—Cattle—Common to choice native steers, averaging 1,600 to 1,650 pounds were saleable at 3,40a5.70, with sales largely at 4,50a5.25, and extra choice lots were nominal, as none were offered. There was a very good cow trade at 1,75a3.85, sales being largely at 2,00a8.25, while bulls went for 2,00a3,50

Hogs—The extreme range of prices was 4,80a 5,25 for light; 4,50a5.10 for heavy, and 4,40a.5.05 for common to choice mixed; calls sold 2,00a4.40, and pigs, 4,00a4.75; sales were largely at 4,90a5.10 for light, and at 4,80a4.90 for heavy.

Sheep—Common to choice mixed; calls sold 2,00a4.40, and spring lambs werein good demand at 3,00 for culls up to 4,00a.50 for choice extra.

Wool.

Wool.

Bostos, July 27.—The wool market is still very active, but the saies now being made lack considerable of the speculative tendency, and in addition manufacturers are buying in less large lines. At the same time the volume of trade and the demand are good. That less wool is being sold would seem to indicate some halt on the part of buyers, but the valuation of wool is unchanged, and dealers still steadily ask the prices that ruled during the exciting times of the last month. The market, therefore, must be reported as strong and active, but with rather less trade to report.

Ohio and Pennsylvania fleeces are meeting with some demand, though not in proportion to the woel that is arriving. The new wools meet considerable interest from buyers, but are not so freely bought as other wools. Values are well maintained at the recent advance, and must be quoted strong. Possibly the advices to hold the wool for extreme figures may account for the smaller business.

Michigan wools are in fair demand and being re-

Michigan wools are in fair demand and being recieved more readily, but are unchanged in value. Unwashed combings are still in excellent demand and very strong. Washed combings are less active, but are firmly held, and delaines are also firmly held, though the demand is not very large. For Toxas wools the sales continue active, and large sales are being made at current rates. The wools are stiffly held with no indication of concession, but indicate no further advance.

For Oregon wools a goodly inquiry is reported, with considerable wool being sold. Prices are strong at the recent advance, both Eastern and Valley wools selling freely.

California wools we note as still being in active demand, though when selling, selling natually in large loits. Prices are strong at quotations, and no indication of any change either way is neted.

For pulled wools there is a good call, and full prices are being paid. The demand rans stronger to the coarser grades, but fine wools are meeting a steady inquiry.

For territory wools the market is very active. Manufacturers are free buyers of these wools, and dealers are usually free sellers when prices offered and asked are anywhere near. The market soush be reported as strong, and prices well maintained. In Australian wools there is still a large business to report with heavy and frequent arrivals of new wools. While the London sales are reported as steadily maintaining the opening range of valuation, it has shown no further improvement, and dealers now look for none. A large amount of wool has been bought in London for this market, and this wool has been keenly competed for, both ess. Michigan wools are in fair demand and being re-

wool has been bought in London for this wool has been bought in London for this market, and this wool has been keenly competed for, both on the part of Americans and English buyers. The sales will close very firm. In this market, while the demand is good, prices show no change, We quote the selling prices of the market for leading descriptions, as follows:



LEAF TOBACCO.

New York, July 30.—The market for seed leaf ruled steady, and for choice old binders there was a steady inquiry, which kept supplies well cleaned up. Wrapper leaf, however, was quiet. Sumatra was fairly active and firm, with business mostly in the 1893 crop. Havana leaf was also firm, owing to the fear that the Cuban revolution will spread in the tobacco districts. We quote: Seed leaf—Connecticut—Filters and seconds. "23-55c: running lots, '83, J6a16c; fine wrappers, '23, 50 a56c; '30 crop. 30.50c; New York—fillers, 730c; running lots, 14a16c; fine wrappers, 25a56c. Pennsylvania—Filters, 4a12c; broad leaf, running lots, 10a12c; Havana, running lots, 12a15c. Ohlo—Filters, 459c; running lots, 8a12c; tine wrappers, Little Duich, 12a14c; tio. filters, 5a8c; Zimmer Spanish, running, 11a13c. Wisconsin—Filters, 6a10c; binders and wrappers, 12a16c. Kentucky leaf—Common follers, 6b30c; Remedics, 5b30c; Yuer ad Abajo, 51a1.10; Sumatra in bond, first size, light and spoted, \$2a,250; do. second size, \$1,50a2; do. medium, plain, \$1.50a2; medium, spotted, \$1.75a2,25; do. dork 25a75.

Op'g. High. 6.00 .... 6.00 6.77 6.79 6.76 6.83 6.84 6.82 6.85 6.91 6.98 6.91 The cotton market is exceedingly quiet. Bota England and the Continent see cotton enough ahead for the present, and they evidently do not trouble themselves about what is growing or not growing. Manchester cabled that there were more goods on hand than buyers, and while this is the case cotton will not be put into additional goods.

Grain CHICAGO. July 30.—The following shows the WHEAT-LARD-The wheat bulls generally have it mildly their way, owing to light Russian shipments and unfavorable home reports. The Argentine crops not developing as largely as was expected.



It is claimed by some that this would give
us a double self-regulating standard, while
others believe it would simply change the
standard from one metal to another. There
is no such uncertainty in regard to the fence
standard. The Colled Spring remains the
universal unapproachable self-regulator, for
farm, railroad, and park purposes. If ELASTICHTY can do for the currency what it has
done for The Page, there'll be no opposition.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich. When writing mention this paper.

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depends on little things. A Ripans Tabule is a little thing, but taking one occasionally gives good digestion, and that means good blood, and that means good brain and brawn, and that means success.

Ripans Tabules: Sold by druggists, or by mail f the price (50 cents a box) is sent to The Ripan Remical Company, No. 10 Spruce St., New York. Sample vial 10 cents.

COMFORTABLE INCOME WITHIN YOUR REACH AS A WORKER PUR THE Cosmopolitan Magazine.

THE COSMOPOLITAN IS just now engaged in making a special effort, and is offering unusual opportunities to those who desire to become its representatives. Fully the equal of the \$3.00 or \$4.00 magazines, it is sold at \$2.50 a year; gives 1660 pages each year, with over 1900 illustrations. Its contributors include the most famous writers and most noted artists of the world. It is not surprising thet that it was the most widely circulated maga-

To THE EDITOR—Please inform your readers that I have a positive remedy for the manently cured. I shall be glad to send two bottles of my remedy free to any of your readers who have consumption if they will send me their express and post office address. T.A. Slocum, M.C., 183 Pearl St., New York. When writing mention this paper.





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SPINDLES PROPERSON, STREETS MADELIES .....

These compounds are found in the orcent. of nitrogen, not found at all in the other compounds.

FEEDING POULTRY.

The Foods. Their Value, and How to Use Them. WHEELER, OF NEW YORK EXPERI-

OU HAVE ALL

the nitrogen free extract, including the

starches, sugars, and some similar sub

WHITE COCHIN COCK.

most animals than the nitrogen free ex-

tract. These carbohydrates serve as

sources of fuel and energy and also of

fat in the body, as does the fat also in

In feeding most animals it is not

necessary to consider the amount of the

ash constituents, for the ordinary foods

contain all that would be needed, but

the demand of a laying hen during the

period of most rapid egg production for

lime to supply material for the eggshell

is so great that a special effort is neces-

sary to furnish food rich in lime. When

grain constitutes the greater portion of

the food, it is found of advantage to

give oyster shells or some form of carbo-

In order to have a general rule that

will assist us to give suitable rations, and

that will cover the use of all ordinary

foods, feeding standards have been made.

In devising the feeding standards for

data has been available, but not enough

is known at present to enable one to for-

mulate any closely limited feeding stand-

do not represent or stand for any nar-

rowly defined natural-laws of nutrition.

To a large extent they simply represent

averages of those rations which have

been most successfully used. Familiar-

ity with the feeding standards does not

in any way take the place of experience

and personal supervision of the animals

fed, and a knowledge of rations that

have given good results does not relieve

a man from the necessity of studying the

capacity of his animals nor the local con-

ditions surrounding them. For a cow

of about 1,000 pounds weight while in

milk, there is required, according to the

estimate of those who have especially

studied the subject of feeding, from 30

to 80 pounds of food containing 25

pounds of organic matter, 25 pounds of digestible protein, 13 pounds digestible

carbohydrates, starch, sugar, etc., and five pounds of digestible fat. The cow

would probably give 30 pounds of milk

containing 3.8 pounds of milk solids re-

quiring on the average seven pounds of

50 pounds of food per day, less bulky

nate of lime to supply the deficiency.

foods

The fiber is less digestible with

doubtless heard mention of farms in more or less indefinite and remote localities where the practiced science of poultry-keeping is to permit a few hardy old fowls, recently escaped from the holiday slaughter, to hide about the farm buildings, roost on the mowing machine, and perpetuate their species if a few nests could be kept out of sight for the necessary three weeks. The full 21 days are necessary, for two weeks or even 18 days of incubation will hardly suffice to keep eggs out of the market, as some of us have at rare intervals had occasion to note. Some 40 or 50 years ago, I am told, these orthodox methods were not disturbed by many exceptions; and, if my memory serves me rightly, I suspect at even this day I can lead the way to a farm or two where the fancier's influence has not been dominant. A woman might sometimes feed a hen and her chicks, but a man was not expected to give any of his valuable attention to hens other than to throw a club at any attempting to get a taste of the corn so carefully saved for the hogs. The man

extended to him. Fortunately, a few fanciers of independent mind, and of importance enough that their neighbors could not afford to sneer at them, now and then were sufficiently interested to encourage the breeding and exhibition of fowls good enough to win their way to popularity.

who fed his hens or built a house for

them was regarded as an imbecile, and

compassion for his weak mind would be

the only consideration besides contempt

It is not uncommon to see feeding rations 'aid down on paper and stated with the same unmodified air of certainty and precision that would be used in mentioning the number of ounces in a pound or inches in a foot. Some of these writers ignore or forget the fact that even the chemist, with a laboratory at hand, could not follow the rules they lay down as established laws of nutrition, for the methods of analysis used to e the constituents of feeding stuffs are not accurate to such parrow limits. In order to establish and assure our knowledge of the functions and values of foods, it is very desirable that many results of feeding be reported, with records of all the details and circumstances that can be kept account of



BLACK SPANISH HEN.

or controlled. In reporting average results it is, of course, often necessary to use decimals of several places to show differences, but the fact is that not enough is known to justify any such finely-drawn lines as are sometimes marked out.

If only two or three kinds of foods were ever available, it would not for practical purposes be of use to more than consider each food as a whole, but inasmuch as many quite different foods are at different times available and vary much in market price, it becomes necessary to know whether the good results obtained from certain foods may not be also obtained from combinations of other

In order to compare foods with any degree of certainty, it becomes necessary to know something of their composition if we wish to feel confident of the possibility of substituting one for another with success. In practically considering the nutrition of animals, it is not necesalready by plants from inorganic ma-

The animal body consists principally of four classes or groups of substances, viz., water, ash, fat, and protein.

Water constitutes from 40 to almost 70 per cent. of the weight of most ani-

The ash or mineral constituents form

dry matter, one pound of eggs being pro duced from about three and four-tenths pounds water-free food, one pound of dry matter of eggs for each eight and eight-tenths pounds water-free food.

These rations are stated at the rate for each 1,000 pounds live weight fed, to compare with the standards which

guides in feeding other animals. It must be remembered that, in offering ganic part of the bones, in the ligaments and muscles, skin, feathers, internal orthese suggested rations for laving hens gans, brain and nerves. Protein comwhile, so far as the consumption of food pounds all contain from 15 to 18 per is concerned and the constituents in it, quite a number of records have been ised to average from, there are few data The classes of constituents in plants available in regard to the digestibility are not greatly different from those in of food by hens. I have never been able to find record of any digestion exthe animal body. The protein substances are in some respects the most im-portant, for nothing else can supply the periments that have been made with any kind of fowls. Indeed, while the nitrogen necessary for growing fowls and digestibility of food by hens can be delaying hens and the necessary repair of termined, it cannot be in the direct, and the muscles and internal organs. in some respects simple, manner that Besides the ash and fat there is the digestion experiments with cattle and woody fiber of plants-not so necessary sheep are conducted. The per cent. to fowls perhaps as to ruminants-and digestible of the different constituents of

have been used in recent years for

by experiment. Per hen, the amount of food required per day would vary somewhat with the season and according to the size of the hen. A smaller hen will eat more in proportion to weight than a larger one. When laying the difference in amount of food consumed by larger and smaller hens would be less than at other times, when only enough need be eaten for maintenance. A Cochin or Brahma hen, when laying, would require about four and one-quarter ounces of food per day, of which three and one-quarter ounces would be water-free food. A hen of Leghorn size, when laying, would require about three and one-half ounces of total food, or about two and threequarter ounces of water-free food, per

the foods is necessarily at present only

estimated, and has not been determined

day.
When growing young fowls from the shell a much larger amount of food in proportion to the live weight is required by the young chicks than by the older fowls. A number of feeding experiments made at the Geneva Station showed that the water-free food required for every 100 pounds of live weight fed was at about one pound average weight, 10.6 pounds; at two pounds, 7.5 pounds at three pounds, 6.4 pounds; at four pounds, 5.5 pounds; at five pounds, 5.3 pounds; at six pounds, 4.9 pounds; at seven pounds, 4.7 pounds; at eight pounds, four pounds; at nine pounds, average weight 3.3 pounds; at 10 pounds, average weight 3.3 pounds. The amount of fresh food equivalent to these weights of water-free food would

be somewhat greater.
Young hens, especially of the better laying breeds, when in full laying should be fed very liberally, and can be freely fed all they will readily eat without much risk, but older hens and the young ones when not laying should be fed only enough to keep them ready and eager for food.

Exercise is of paramount importance, especially for laying and breeding stock, most animals, much carefully collected ood way to assure this, and per haps the best in Winter time, is to scatter the grain for them in straw or hay or any clean and dry substitute. ards for poultry. The feeding standards

No substitute is equal to a good grass run for fowls in Summer except absolute liberty in large fields. Where it is necessary to confine fowls in yards too slightly the best results, the results small to produce grass, chopped clover, alfalfa, cabbage, etc., can be fed to ad-

One great advantage of keeping hens separated in small lots of a score or less n each is the possibility of feeding each lot according to their needs and keeping the laying hens separate from those not Whether because of the more laying. careful feeding or other causes, it is seldom that so good results as those secured from small flocks can be obtained from larger ones.

ABOUT HENS.

Light-Brahma-Leghorn Cross-Feeding. Cholera.

We keep hens for profit. Although like to take care for them, I would not do the amount of work they require if I dry matter in food to each pound of thought there was not any profit in milk solids produced. One thousand them. pounds of laying hens of about six pounds each, would require from 40 to

I do not know how much it costs to keep a hundred hens a year, but if the feed was all in one pile it would be a large one. We keep the hens in a yard until noon. By doing so they do the most of their laying in the henhouse, but it costs more to keep them this way. We think it takes at least one-half of the money we get for the eggs to pay for their feed.

Our fowls are a mixture of light Brahmas and White Leghorns. We try to raise half as many pullets as we want hens in the Winter, and sell the hens when they are two years old. We do not like to keep them after they are two years old; they lay larger eggs, but not as many, and extra size is not much of an object to the producer as long as eggs are sold by the dozen.

Last year we kept about a hundred, and during the year they laid 944 dozen eggs. We sold 770 dozen for \$114. The price ranged from 10 cents to 28 cents a dozen.

We cannot make our hens shell out eggs as I read of others doing. Maybe if we devoted our whole time to them we could learn their needs and have them do better.

best. It is better to warm it in cold weather. We also give them green food often; they are very fond of beets and cabbage. We aim to change their food and give them as great a variety as possible. They have ground oyster shell where they can help themselves. The fresh-meat bongs are all dried in the oven until they are brittle enough to pound easily, then fed to them; they make the hens sing very loud, but do not know whether, they do any more than that. The broken dishes are also pounded, but we do not have many of these, as a careful woman washes them.

water will not stand on it, for if it does the hens will drink from the puddles, when they have fresh water in clean dishes and bad water cannot be healthy for them. It is hard work to get things arranged to perfection, even around a hen-house. I have read about putting carbolic acid in the drinking water. I can put the acid in the water, but I cannot make the hens drink it, and it was not strong with the acid.

We lose hens with the sc-called cholers, the symptoms of which are sulphur-colored droppings, loss of appetite, with a crop full of food, loss of flesh, then death. I think liver disease is a more appropriate name. I think there must be a great deal of the same disease through the flocks in all sections, or there would not be so many inquiries for remedies for it. I try nearly all of the remedies I see recommended, and make compounds of my own, but with very indifferent success. I have held postmortems on some of them, and when I saw the liver I think an axe in the first place would have been the best remedy. The liver of one was large enough for four, and very light-colored; another was too dark, and so tender it would hardly hold itself together, but not enlarged; the liver of another looked natural. I did not examine any part but the liver.

I never have had a case of roup and do not care for any. I never have had many chickens troubled with the gapes, but a very good remedy is to take equa parts of wood ashes, black pepper, and salt, and put a pinch of it down the chick's throat. If one dose is not enough repeat it; it will not hurt them.

To keep the henhouse free from lice. I use wood ashes, taking pains to throw them against the sides of the roostingroom and in every place where one thinks they will gather; I do it two or three times a week. For lice on chickens it is a good way to grease every part of a hen the chickens will come in contact with. We do not do anything for lice on hens, only to give them dry dirt to scratch in.

plaster, and used as & fertilizer, usually on corn; sometimes wood ashes are mixed with them just before using.

We take a number of papers, but THE AMERICAN FARMER is at the head of pounded the riddle to the Philistines the list, in my opinion,-P. E. C., Rensselaer County, N. Y.

Corn Meal, Oil Meal, and Bran as Feeds

The report of the Wisconsin Agriculmeal, and wheat bran for milch cows. in 1893, the result showing that there influence of the three feeds on the production of milk, though oil meal gave practically the same.

the most economical. The dietetic value makes it more palatable, but should only be used in small quantities.

Meal of Sunflower Cake. Sunflower cake has been found, especially in Russia, one of the best auxiliary cattle foods. As early as the year 1866 about 100,000 centners of sunflower oil were manufactured in Russia, and its amount has increased year by year, it being esteemed as a very palatable alimentary oil. The oil was formerly obtained by hydraulic the producer's hands. It seems to me means; the residual cake is harder than that comb honey, in most home markets, any other variety of oil cake, and for this reason apparently it has not found single section, or six sections for \$1. a wider application. Denmark and the northern countries import large quantities annually, as do also the eastern 81. These prices certainly are not high, provinces of Germany, and the problem of its disintegration; has been successfully ward any reasonable producer in a fair solved by several manufacturers there. honey season. It is still unknown in southern and western Germany; now, however, that it is put on the market in the form of meal it will doubtless soon find general application, suited, as it is, both on honey-producer will find in it a verification and placears. account of its composition and pleasant taste, for fattening cattle. The percentage of proteid varies between about 30 to 44 per cent, the fat between about 9 to 18 per cent. It is possible to prepare two qualities, one rich in proteid and poor in fat, and the other rich in fact and poor in fat, and the other rich in fact and poor in profeid. When, for example, the somewhat finely-ground meal is sifted, employing a mesh of 1mm., that which passes through is much richer in proteid and poorer in fat than the original, while the reverse is true of that which remains in the

THE APIARY.

Hummings. Mr. Cowan estimates 52,000 beekeepers in England and Wales.

When bees are moved a distance of over two or three miles there is no danger that they will return to their old

A good way to keep moths out is to have the entrance as small as possible, which gives the bees more chance against their enemies.

In handling honey, have water and a cloth at hand. A little care to keep things clean, saves much annoyance and trouble in the end. Few, if any, things can be done well

in a hurry. Handling bees certainly cannot. You will always do better if you take plenty of time.

Farmers in northern Illinois are beginning to experiment with alfalfa, though previously it has been supposed the conditions in that part of the State were unfavorable to its successful growth.

No large trees should be near the piary. Have some small, smooth trees near-by for the bees to cluster on, but they should not be allowed to get over 12 feet high.

Honey should be left with the bees until ripe enough to keep. If extracted while raw, or very thin, it will soon take a strong, rank taste, and be worth only about half price.

When uncapping honey for extracting fasten a whetstone to the place where you wipe your knife. In wiping over the stone, the knife is kept to a keen edge.-Mr. Schaeffle, Cal.

Beekeeper Oderlin, of Santa Ana, Cal., does not believe in the day of small things. By the end of April he took one and a half tons of honey from his hives in three extractions.

"Why was the bee selected as a model of industry?" said Tillinghast. "Because business with him is always

humming," replied Gildersleeve Spring wagons, or a wagon with much hay or straw, should always be used in moving bees, as they should be jarred as little as possible. Rough handling may move the frames or break

out the newer or poorly-fastened combs. To provide shade for hives standing in the sun we are advised to cut long grass and pile it on the hive six inches or more deep, anchoring it with two or three sticks of stovewood. If cover and all are lifted it will last through the

The ancient Romans believed that bees originated from the decaying carcasses of cattle. Possibly this belief was held even earlier. Samson found bees in the carcass of the lion, and pro-Out of the eater came forth meat, and out of the strong came forth sweetness.' (Judges, XIV.)

A Vexed Question.

Shall honey be disposed of among the roducer's friends and neighbors-the home market-or sent to the commission merchants in the nearest city?

The city market has often been found unsatisfactory, for many reasons; the risk in shipping is great, the market is sometimes overstocked, and the busy commis sion merchant is unable to give to each consignment the attention desired by the

Of the home market Mr. York says: "I fully believe that the best solution of the question will be found in the home market, where the producer can personally look after the details of the work; and although unable to do the actual retailing himself, he can so supervise it as to realize the largest proceeds from the sale of his crop of honey.

"As to the price to be asked, certainly the city market quotations should not govern, for, as I have shown, that mar-ket may have become overstocked, and for the time being the price lowered to such an extent that there could be no profit whatever to the producer.

It has been suggested that unless a good price be asked it will not be secured. And there is more truth than poetry in that hint. Though, if the price asked be too high, there will also be less sales, and consequently less money obtained but more honey left on should bring not less than 20 cents per and yet large enough to sufficiently re-

I am sure that the home market for table gold mine in exchange for his pure, golden honey-nectar fit for the gods, and hungry humanity's best food and medicine.

Ants in Apiary. A. E. Manum, Bristol Co., Vt., thinks

the trouble from ants in the apiary exaggerated. He says: "The large black and small red ants seem to take possession of double-walled hives for the purpose of rearing their brood, this being a favorable nesting place for them on account of the warmth generated by the bees. I find them in great numbers inside my outer cases, but rarely ever see one of either variety inside the brood chamber, except when I remove the honey board to examine the bees. The ants then being disturbed seem to run wild in all directions and occasionally they will run in among the bees; in which case the large black ants are soon

tenaciously as to cause the bees much annoyance for a short time, or until the ants are driven away. In order to avoid the annoyance I lay pieces of common tarred paper inside the outer case; this has proved effectual."

Italian vs. Common Bees.

The veteran Prof. A. J. Cook thus summarizes the advantages of Italian over common bees: They possess longer tongues, and are thus enabled to secure stores where and when the blacks are helpless. They are more active and collect more honey. They work earlier and later, both in regard to the day and the season. They better protect their hives from robbers. They are almost proof against the bee-moth. The queens are more prolific. They are less apt to breed in Winter, when bees should be kept as quiet as possible. The queen is more easily found. They are more disposed to adhere to the comb while being handled. They are less liable to rob other colonies. They are far more amiable, therefore much pleasanter to work with. This feature alone makes them particularly desirable for the

"The Little Busy Bee."

We often speak of the wonderful and admirable industry of the honey-bee without thinking of the amount of labor which that industry really represents, says the Youth's Companion.

Careful experiments have shown that a red clover blossom contains on an average less than one-eighth of a grain of sugar. There being 7,000 grains in a pound, the bee that makes a pound of honey must obtain its material from no less than 56,000 clover-heads.

But this is not the whole story. In order to get the nectar, the bee is compelled to insert its proboscis separately into each floret, or flower-tube, composing the head of clover, and there are about 60 florets in every head. The insect must, therefore, perform this operation 60 times 56,000, or 3,360,000 times in order to obtain a pound of

Irrigation by Pumps.

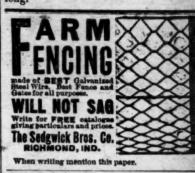
The Nebraska Station's report says: "Irrigation by pumping from wells has not yet been practiced to any great extent in Nebraska. It is almost certain, however, that within the next few years nearly every farmer in the western and middle part of the State, where conditions are at all favorable, will have from two to 15 acres under irrigation by this method."

New Use for Cornstalks.

Our naval constructors continue to grow into the idea that the pith of cornstalks is a better protection for the hulls of war vessels than the cocoa cellulose, upon which the French build great expectations. Both fire and water tests support this view.

As to the former tests, the cocoa fiber was made to flame by an ignition which only blackened a little the cornstalk pith. Again, streams of water were directed from a hose against the holes made in the two cofferdams by last week's firings. The hole of the six-inch shot in the cocoa washed out in half a minute to a depth of a foot and a half, and that of

expelled by the bees, but the small red ants are not so readily disposed of, as they will bite and cling to the bees so streams were then directed upon the streams were then directed upon the eight-inch shot holes, and the cocos cofferdam was bored through in nine seconds, while the other took twice as









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GRAY CALL DRAKE

34 pounds of water-free food. There should be in this possibly five pounds of digestible protein, 15 pounds of digestible carbohydrates, and two pounds of digestsary to go back of the compounds formed | ible fat. The hens would produce 8 to 17 pounds of eggs containing 2.6 to 5.2 pounds dry matter, perhaps on the average 13.0 pounds dry matter in food for one pound of egg solids—4.0 pounds dry matter in food for one pound of eggs.

One thousand pounds of laying hens of about three pounds average weight would require from 65 to 70 pounds total food, or about 52 pounds water-free a considerable part of the bones and a food per day, containing about eight The fat varies much in amount, and may form a third or more of the weight.

Protein is the name used for a group of similar substances, like the dried white of an egg or washed lean meat.

The fat varies much in amount, and digestible protein, 22 pounds digestible carbohydrates, and four pounds digestible fat. The hens would it is mixed with water or milk the tendency is to use too much water—and at night a feeding of different kinds of grain, but they like corn and wheat the pounds to mine and eight-tenths pounds.

The fat varies much in amount, and digestible carbohydrates, and four pounds digestible fat. The hens would it is mixed with water or milk the tendency is to use too much water—and at night a feeding of different kinds of grain, but they like corn and wheat the locate.

I have read about using glass, but that is so sharp we have felt afraid to try it. A yard for hens ought to be so the

The hens' droppings at night are all saved and mixed with dry dirt and

tural Experiment Station for 1894 contains a full discussion of the comparative feeding values of linseed meal, corn was a gain of live weight on bran over corn meal, and on oil meal over bran. No material difference was shown in the from corn meal and wheat bran being

Wheat bran is according to Wisconsin prices, the cheapest of the three feeds, and as it produces nearly, if not quite, as much milk or fat, it is by far of oil meal is, however, of importance. It furnishes a variety to a ration, and

"An Ounce

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A second crop of rape may be had by preventing the stock from eating the the benefits of the best machinery and stumps. The second crop will be almost as bulky as the first, but is very watery, and of low feeding value unless the weather is quite dry.

RAPE suits alluvial or peaty soils best, and after these heavy clays. It is of production and of the cost of putsuccessfully grown, however, on a great variety of soils.

WHO has tried Fultz wheat? Did it do as well this year as last year, and the this was begun long ago, and is now go- big prices. Later, when Georgia and year before? Let us hear from our

cabbages as feed for milch cows, also use is still doing it. Other farmer organi- profits. Henceforth they are in the them in the sile.

CO-OPERATION THE GREAT SECRET.

There is one overwhelming tendency of the times which has been largely misunderstood. Means of rapid inter munication have been so improved that the whole civilized world is essentially one community. We are all buying from and selling to one another.

This is especially true of the United States. For the first time in human history 70,000,000 people are gathered into one contiguous country, under one Government, all speaking the same language, having the same laws, monetary and commercial systems, and trading with the utmost freedom with one another. This is a marvelous condition of things. The people in the most widely separated portions of our great country are to-day relatively much nearer each other than the people of different Counties in England were a century ago.

The first result of this is that any person who has necessary articles to sell has the whole of this vast aggregation of people for customers. If he can produce and sell a little cheater than his competitors, he has ready for him a business the immensity of which is almost beyond computation.

Let us take the article of wagons for an illustration. Fifty years ago every little village had its wagonmaker who furnished all the neighborhood with farm vehicles. Unless he had a specially high reputation, he rarely sold outside of his Township, and hardly ever beyond the line of his County. But to-day the village wagonmaker is almost extinct. A few big wagon shops, having special facilities for manufacturing cheaply and TO ALL TO WHOM THIS PAPER well, began pushing out into broader territory; they improved their facilities for manufacturing, the railroads would carry their wagons everywhere, and finally they made competition with them by local mechanics almost hopeless.

This is the real philosophy of the big rusts and monopolies about which there has been so wild distortion of the truth. That they are soulless and grasping is entirely true. The village wagonmaker undoubtedly used every fair means to get rid of any competitor who started business in his territory, and the big wagon factories, we can readily imagine, pursue the same tactics with proportionately more energy and power. This is something that we have to ex-

In one way this process of centralizing is very deplorable. It extinguishes who were most valuable members of the community, and replaces them by a few big corporations. On the other hand, it gives the farmers better and cheaper wagons than could be produced in the local shops.

This is the truth in a nutshell about hundreds of other industries which have passed from the stage of small local shops to mammoth establishments which supply the whole country.

But whatever we may think of the morals or lack of morals of the process, we must accept it as an actual fact, and its development will go on rapidly. is the result of a natural law, and like all natural laws we must adjust ourselves to it, or suffer. People have the right to buy of whoever offers them the cheapest and best goods, and big corporations, which can command the best facilities, can produce better and cheaper than individuals.

The only way to meet this is by counter combinations. Every day renders it more necessary that all classes of producers must combine and co-operate if they would hold their markets and prevent extinction. The future history of this country will be one of combinations and co-operations along different lines of production. In every line it will be either a few big establishments monopolizing the whole business, or a number of small producers working together upon schemes which will enable them to pool their joint capital, and enjoy

Agricultural producers are ne exception to this rule. Every year must see greater co-operation among them, to secure the greatest cheapening in the cost ting it on the market, that the farmer may reap the utmost profit from his investment, labor and skill. Fortunately the work of educating the farmers up to had absolutely no competition, and got ing on rapidly. The Grange, though it South Carolina began to come in, prices

mentive, political period, when they hold that everything can be accomplished by legislation, and settle down to studying problems upon business principles, do the same. One of the best object-lessons in the value of co-operation is the creamery. Daily it teaches a most valuable lesson to everyone in the community round about of the value of concerted effort upon well considered business methods. The creamery is the in a hundred different lines of special production. We expect within a few years to see the sugar-beet growers combined to have their own factories, the but the crop is of so much importance fruit-picking machines, and storage and part. Since rape is essentially the same sales depots, etc. Everywhere communi- as turnip-simply expending its energies ties of farmers will combine to purchase in forming leaves, where the other puts the best labor-saving machinery, and se- them into the bulb-it follows all the cure the best facilities of all kinds. In the associations for these purposes there will absolutely the best methods, just as is now done in the creamery associations: everybody will learn things of value from one another, and the exact science of agriculture will make rapid strides.

"It is not good for man to be alone.' The closer farmers unite together the more earnestly they consider each other's ways and results, and the more they work in unison the greater the moral, intellectual, and pecuniary profit.

### CHINCH BUGS IN OHIO.

Ohio farmers who have heretofore only had that moderate interest in chinch bugs which we generally feel in evils afflicting people hundreds of miles away, have this year had the trouble brought directly home to them. All at ouce 11 central Counties in the State were overrun with the pest.

The reason why the disaster was no sooner apparent was because the insects bred in the wheatfields, and did not attract attention until the wheat was barvested, when, as is their habit, they migrated to the oats and corn fields in countless swarms. From the fact of their having no wings with which to fly. the pests are obliged to walk, which has the effect of keeping them together, and when they reach a field, especially of corn, they congregate on the stalks and leaves in great numbers, literally sappect. Human nature is generally ping the life out of the plant, and eausing it to wither, turn brown, and die. If in oats, wheat, or barley, the heads and straw turn white and also wither and

> The bulletin of the Ohio Experiment Station gives the following the vermin:

When first hatched from the egg the young is of a yellow color with a reddish stain in the middle of the back. It soon casts its skin and is then a little larger and of s bright vermillion red color, followed later by the posterior portion becoming a dull red and the forward parts dusky. Later on it i black and dark gray, and on reaching its full old over each other on the back, showing black spot on each side of the middle. re then a little less than a fifth of an inc in length and can fly about freely, which they usually do in the early Spring, in August, and frequently in September and October. Young are produced twice each year, in Spring and late Summer or Fall, the last brood of young not being destructive. The Winter is passed under matted grass or ny rubbish that will offer protection, though it is a fact that they may be frozen in so ce and when thawed out and warmed be perfectly healthy and vigorous. During the warm days of Spring they leave the Winter quarters and flock to the grain fields, where they lay the eggs for the first brood of young -the one that is now so destructive-afte which they die.

The farmers are fighting the pest by spraying with kerosene emulsion, and with the fungus disease. This latter is developt at the Station and distributed to the farmers. In damp weather it is as rapidly fatal to the bugs as cholera and small-pox are to man. This not only gets rid of them this season, but diminishes the probability of their reappearance next year.

PROSPERITY comes sometimes as unexpectedly as adversity. Last Winter the Floridians thought that the freeze which killed their orange and other fruit trees had reduced them to poverty. But they were true Americans, and soon began thinking how to make the best of a bad situation. They had their lands and homes yet, and it occurred to them to try raising melons and early vegetables. They made a big success. The first 1,000 car-loads of melons, tomatoes, cabbages, egg-plants, cucumbers, beans, peas, strawberries, etc., which they sent North were so far ahead of those from other sections that they made many mistakes at the outset, fell, but the Floridians had made big THE English, who make much use of did a great work in this direction, and money, and continued to make fair zations, after they get through the fer- early vegetable market to stay.

SOW TURNIPS OR RAPE.

It is not yet too late to sow turnips or rape, or both, and no farmer should let the precious weeks go by without improving the last opportunity of the

Experience has shown that the first two weeks in August are the best time to sow turnips in the 40th degree of latitude, and probably this is equally true of other sections. Especially is model upon which farmers will co-operate this true if the ground is sufficiently moist to induce ready sprouting.

Our knowledge of the behavior of rape in this country is as yet limited, poultrymen for their own cold storage to every farmer that it is well for him warehouses, the orchard men their own to do some experimenting on his own general laws governing the turnip's seeding and growth. Consequently, it will be discussions and determinations of almost certainly do well wherever the turnip will.

> Every farm has plenty of soil that can now be used to grow one of these plants during the rest of the season to great advantage.

> It is much better to have the ground from which potatoes, peas, oats, wheat, etc., have been taken off, sowed in one of these crops than to allow it to lie idle and grow up in weeds.

Either rape or turnips will do a great work in cleaning off the weeds, and making tillage next year far easier.

Rape and turnips make splendid feed for sheep, cattle, and swine. They will eke out the corn-crib and the hay-mow wonderfully.

THE live, broad-gage men who manage the Mt. Gretna Park (Pa.) Agricultural, Mechanical and Industrial Exposition are making great preparations for the Sixth Annual Meeting, which will be held Aug. 19+24, inclusive. Mt. Gretna Park is one of the loveliest spots in Pennsylvania, and the previous Expositions have been decided successes and this one promises to surpass all its predecessors.

WHILE it is well for the farmer who has no previous experience with rape to consider it generally as a turnip, and treat it as such, he should remember that it differs most from the turnip in having large feeding roots, which .go down very deep and extend out quite far in search of nutriment. This enables it to grow and thrive on much poorer land than turnips.

AT the meeting at Cedar Rapids the Iowa Butchers' Association will consider the project of establishing a co-operative abattoir and packing house. We sincerely hope that they will decide to do this. The only effective way of competing with the trusts in this country is by the pooling of small producers, Everyone's little is more than one's much, and an army of small producers working in harmony can accomplish more than any big concern.

Go ahead with the farmer organizations. Every farmer should be in them. There may be much froth and foam at first and working of dregs to the top, but stick to them and they will clear up and fine themselves. You cannot get 50 or 100 farmers and keep them together but that soon hard common sense and sound brains will come to the front and rule the organization for the general good. Every effort to unite farmers for a common purpose results in some good.

### PERSONAL.

Owing to the shortsgal of our corn crop Secretary Morton decided to close Col. C. J. Murphy's mission in Europe. The Colonel was immediately appointed by the Governor of Lewis of Physics of that State. In of Iowa as European agent of that State. It a letter he gives a glowing account of his suc ess in his two years of work in bringing American maize, wines and fruits to the knowledge of the people on the other side Three mills have been erected in Hambur Three milts have been elected in Hamburg for grinding American raisze, and one miller in Dresden grinds 730 tons a year. Corn bread, cakes, etc., can now be had in all the cities of Germany. Thirteen of the largest breweries in Copenhagen use American maize, and the Scandinavian conatries take a great deal of the grain for other purposes.

James M. Ashby, of the firm of Ashby Bros., Poland-China breeders, State Line Ind., was fatally injured by a runaway team.

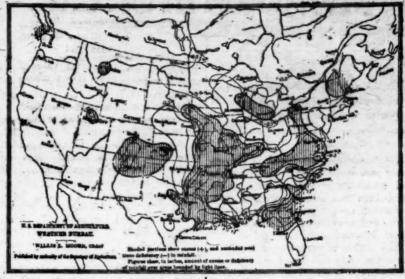
### COMPLIMENTS.

The copy of your paper for April, 1895 containing the very admirably-arranged 'Spray Calendar,' came to hand yesterday. e accept my thanks.-WILBUR DUBOIS

Mrs. O. T. Cornell, Parole, Md., writes: assure you we appreciate your excellent paper and look for it every month. We have no agricultural paper or book equal to it.

John C. Ladwig, Secretary, Tacoma, F. G., Washington, says: "THE AMERICAN A., Washington, says: "THE AMERICAN FARMER is undoubtedly one of the best-farm papers published in the United States."

Departures from Normal Rainfall for week ending July 29, 1895.



WASHINGTON, D. C., July 30, 1895.

TEMPERATURE.

The week ending 8 p. m., July 29, 1895, was cooler than usual over much the greater portion of the country, the exceptions being limited areas on the Central, New England, and Eastern Gulf Coasts, southern Texas, and over a strip of country extending from the central Missouri Valley northwestward to the eastern portions of Washington and Oregon, including northern Utah, where the week averaged slightly warmer than usual, the average daily temperature excess being generally less than 3°. Over very limited areas in Kansas, Nebraska, southern Texas and western Montana, the temperature excess ranged from 3° to 4° per day, but elsewhere the excess was loss marked

While the week was cooler than usual over the greater portion of the country, there have been no marked departures from the normal temperature. greatest deficiency occurred over the Lower Lake region, western portion of the middle Atlantic States. Ohio and Central Mississippi Valleys, the southern plateau region, and the north Pacific coast, the average daily deficiency in these districts ranging from 3° to 5° per

In the South Atlantic States and Florida normal temperature conditions prevailed.

Although the maximum temperature reached 100° over the central portions of Kansas and Nebraska and northern California, and rose to 108° at Yuma, Ariz, the extremes of the week have not been unusual.

SEASONAL TEMPERATURE.

The season from March 1 to date (151 days) has been warmer than usual in the districts to the northward of the Ohio and Missouri Rivers, and also over the eastern portions of Kansas and Nebraska and over the interior of the New England States. The greatest excess in temperature is shown in the Red River Valley of the North, and over portions of the Upper Mississippi and central Missouri Valleys, where the average daily departure has amounted to slightly more than 2° per day.

Generally to southward of the Ohio and Missouri Rivers and in the Rocky Mountain plateau and Pacific Coast districts the season has averaged cooler than usual, the greatest deficiency in temperature, slightly over 2° per day, occurring over eastern Colorado, south ern New Mexico, northern Louisiana and northern Oregon. In the east Gulf States, southern California, and generally throughout the plateau region the average daily deficiency for the season is about 1°.

SEASONAL PRECIPITATION. The seasonal precipitation from March 1 to date (151 days) has exceeded the average along the Atlantic Coast from southern New Jersey to northern Florida; it not also exceeded the average on the East Gulf Coast, over portions of Missouri, Arkansas, northern Texas, New Mexico, Colorado, Arizona, eastern Montana, and North Dakota.

In the Lake region, Ohio Valley, and generally throughout the Mississippi and ower Missouri Valleys the seasonal rainfall has been less than usual. Over a large area, including nearly the whole of the Lake region and Ohio Valley, and portions of the Upper Mississippi and Missouri Valleys, the seasonal rainfall is about 25 per cent. less than usual, and over southern Michigan and the northern portions of Illinois and Indiana less than one-half of the usual amount of rain has fallen. There is also a decided deficiency in the plateau regions and on the Pacific Coast, except on the coast of Washington and northern Oregon, where it has been excessive. In the States of the Lower Mississippi Valley the seasonal rainfall ranges from normal to about 25 per cent, below.

GENERAL REMARKS.

Drought continues in western Ohio, and is affecting crops unfavorably in portions of Pennsylvania, South Carolina, Georgia, southern Texas, Kansas, and Nebraska. In southern Michigan drought has been relieved, but in the northern part of the State the rainfall has been insufficient. The general outlook for corn is excel-

lent, although unfavorable reports are received from portions of Nebraska and Kansas, and it is reported as late in North Dakota. In Indiana, Illinois, Iowa, and Missouri it is making rapid growth and is earing. In Iewa the best crop ever grown in that State is promised. In the Southern States an unusually fine crop is now practically assured.

The condition of cotton is probably less favorable than last week. In Louisiana and the lowlands of Arkansas there has been too much rain, and the crop continues grassy in Mississippi. In Texas t is of irregular size, and from one to three weeks late; and complaints of shedding are received from the Carolinas, Florida and Louisiana.

Harvesting of Spring wheat is

vancing favorably in South Dakota and

southern Minnesota, and will begin in

North Dakota this week. Tobacco is not doing well in Ohio, but Wisconsin, Maryland, and Kentucky it is growing finely, the outlook in Maryland being exceptionably favorable: in Virginia the general condition is promis-

SPECIAL TELEGRAPHIC REPORTS. The following special telegrams were received by the Weather Bureau this

morning from the various State Weather

New England.—Boston: Weather favorable for erop growth and for harvesting; most of upland grass cut, crop generally lighter than usual, but large second crop in prospect; grain very heavy and ripening fast; cranberries propries furgers.

very heavy and ripening fast; cranberries promise faircrop.

New York.—Ithaca: Cool nights; good harvest weather until Saturday; fine, steady rain Saturday greatly benefited growing crops; sood crop of oats being harvested; early potatoes of smail size: damage by grasshoppers increasing.

New Jersey.—New Brunswick: Weather conditions have been favorable for the growth and advancement of all crops; the showers on Saturday were timely and beneficial; second crop of clover promising; pastures good; oat harvest nearing completion.

Pennsylvania.—Philadelphia: Large oat crop ripening and being harvested; recent rains very beneficial to growing crops, but more is needed in some sections; corn at critical stage, but prospects excellent; potatoes doing well, and buckwheat promising; pasturage short but improving.

Maxidand.—Battimore: Corn. much. beneficial.

improving.—Baltimors: Corn much benefited by rains, and all reports bespeak an excellent yield; tobacco flourishing; pastures excellent and stock in good condition; peaches a good crop in eastern portion; apples generally good grapes plenty, but rotting in south and west portions. rtions.
Virginia.—Lynchburg: Rainfall averaged

portions,
Virginia.—Lynchburg: Rainfall averaged from one to three inches, very beneficial to corn, but damaged cotton and retarded oat and hay harvest; droughty conditions ended; corn prospects very good, except in southeast, where poor stand was secured; oat and hay crop generally good and tobacco generally doing well.
North Carolina.—Raleigh: Heavy, washing rains damaged crops locally in several Counties in northern part of State, but not sufficient to lessen general favorable prospects; cotton shedding aquares; carly corn made; sweet potatoes being marketed, with good yield.
South Carolina.—Columbia: Crop conditions vary greatly, owing to unevenly distributed rainfall; cotton fruiting poorly and shedding, with rust in places, but generally excellent; early corn safe and late very promising: minor food and forage crops doing well; drouthy conditions in some Counties.

Georyia.—Atlanta: Hot weather, with badly distributed showers, rather unfavorable for crops; cotton shedding and corn firing in some localities; principal crops generally laid by.

Florida.—Jacksonville: Kain generally excessive over the Florida counties.

crops; cotton shedding and corn Bring in some localities; principal crops generally laid by. Florida.—Jacksonville: Rain generally excessive over the Florida cotton belt, causing plan over large section to turn yellow, with sheddin and rust complaints on the increase; unfavouable week for barvesting fodder and hay; for

all above and the satisfactory, Alabama.—Montgomery: Warmita and sun-hine, with little rain, has been beneficial and aused rapid growth in all crops: cotton im-proved and fruiting slowly; corn line; potatoes, aused rapid growth in all crops: cotton is coroved and fruiting slowly; corn line; potatoe seas, turnips, fruit, and late hay crops fine. Mississippi.—Vicksburg: Cool and shower nterfering with hay hurvest, fodder pullin and field work; cotton grassy, and continues ruit lightly; no worms: corn and cane poor ruit rotting some; planting peas, sweet por coes. and Irish potatoes, and sowing turnips. Louisiana.—New Orleans: Too much rain footton, some shedding, few worms, laying loot completed, fruiting poorly; cane growil and did not plant cane counsi last vear's in a rapidly; plant cane equals last year's in siz

rapidly; plant cane equals last year's in size and quality, stubble not so good; rice very good, some cutting next week; corn, minor crops, and fruit good.

Texas.—Galveston: The weather during the week has been generally favorable for cotton except over southwest portion, where rain is needed; cotton is irregular in size, is one to three weeks late, and is below an average for this season of the year.

hree weeks late, and is both this season of the year.

Arkansas—Little Rock; Crops somewhat improved, though showers have been too frequent for best results; upland cotton very promising, but lowland cotton generally poor stand and not fruiting well; corn continues very fine ot fruiting well; corn continues very and enerally; fruit fine and plentiful. Tennessee.—Nashville: Good rains, with aver-

Tennesse.—Nashville: Good rains, with average sunshine and temperature, greatly benefited growing crops; wheat thrashing pearly finished, generally fair yield and quality; corn prospects never better: other crops growing finely; some tobacco frenching.

Kentucky.—Louisville: Cool and cloudy, with Kentuczy.—Louisvine: Cool and cloudy, w well-distributed showers; wheat and oats shock damaged by h-avy rains; condition corn exceptionally fine; tobacco progress corn exceptionally fine; tobacco progressing finely, some complaints of too rapid growth; pastures greatly improved by rains; warmer, dry weather needed.

Missouri.—Columbia: Thrashing, stacking, and haying progressed rapidly under favorable conditions, except in eastern Counties, where delayed by showers, with further damage to grain and hay; corn is in rosasting and warming to grain and hay; corn is in rosasting and warming to grain and hay; corn is in rosasting and warming the statement.

grain and hay; corn is in roasting car; sorgh millet, tobacco, potatoes, and apples do

nois.—Chicago: Exceedingly favorable severe local storms, however, in northweek; severe local storms, however, in north west Counties Friday caused damage, but no irreparable; corn growing splendidly, roastin ears in early fields; out, wheat, and rye thrash retarded: late potatoes, gurdens, pastures, and crop clover, and millet growing finely; tabundant in central and southern sections; plowing general in central and southern ions.

Indiana.—Indianapolis: Good growing weather with several rains; corn earing and growing fast; potatoes look well; pasturage recovering; wheat and rye thrashing completed; oat thrashing continues; Fall plowing progresses ranidly. gresses rapidly.

West Virginia.—Parkersburg: Temperature,
minfall, and sunshine below normal; heavy minfall, and sunshine below normal; be oeal showers through State; corn grow inely; Fall pastures improving; large across buckwheet some okwheat sown. o.—Columbus: In eastern portion condi-

Ohio.—Columbus: In eastern portion condi-tions favorable, some heavy showers, crops and pastures improved; western portion rather drouthy; outs thrashing better than expected; wheat thrashing well, advanced yield; tobacco variable, not doing well.

Michigan.—Lanaing: Very beneficial showers in southern half of State, but not enough rain in northern half; corn and potatoes generally improved, but nastures are still very poor; out

grain light.

Wisconsin—Milwaukee: Heavy soaking rains have greatly benefited corn and potatoes; pastures are again becoming green; thrashing and Fall plowing now general; cranberries promise a fair crop; tobacco growing finely.

Minnesota.—Minneapolis: Week cool and dry, very favorable for harvesting and maturing grain; thrashing begun; barley yields large; potatoes excellent; pasturage and corn much improved; haying nearly completed; yields generally light,

improved; haying nearly completed; yields generally light,

Iowa.—Dea Moines: Temperature and sunshine
about normal; considerable damage to crops by
local wind and hall storms on the 25th; out harvest about completed and thrashing in progress,
with heavy yield; corn steadily maintaining its
lead and promises to break previous records.

North Dakota.—Bismarck: Weather favorable,
but considerable damage done by heavy hailstorms and some by smut and rust; harvesting
of wheat will begin this week; rye and barley
nearly all cut; corn backward.

South Dakota.—Huron: Temperature averaged about normal; fair to copious, though
scattered, light showers benefited all late crops,
but more general rains needed; fine harvest
weather, and wheat harvest well advanced;
corn growing rapidly, and potatoes and flax
improving.

Nebwaska.—Lincoln: Small grain harvest

Helena: Temperature above and

Montana.—Helena: Temperature above and precipitation below normal; hay harvest genoral throughout State, only half crop of wild hay will be harvested; grass on ranges curing rapidly; grain not irrigated badly burnt, and only half crop expected.

Wyoming.—Choyeome: Temperature and sunshine about normal with very little precipitation; crops all maturing nicely; excellent weather for harvesting.

Idato.—Idaho Falls: Week of hot, drying winds, which have dried up unirrigated crops winds, which have dried up unirrigated crops serious damage; late grain probably light crop; irrigated crops doing well; hay good quality; but crop short; second crop of sifalfa growing rapidly.

rapidly.

Colorado — Denver: Be-t growing weather of
Colorado — Denvert begun in north; alfalfa

Colorado — Denver: Bet growing weather of season; wheat harvest begun in north; alfalfa badly damaged and wheat harvest delayed by heavy rains in Arkansas Vailey; perfect weather for haymaking on western slope; range grass excellent.

New Mexico.—Sanfa Fe: Heavy rains during past week, with warm weather, have made rapid growth; some damage to crops and property by freshet; crops and stock ranges in splendid comittion.

Arizona.—Tuzoon: Report not received.

fluished; potatoes and corn look well; water getting scarce.

Washington.—Seattle; Week of average temperature, some cool nights, and dry, though a light rain night of 28th; haying about done, barley harvest nearly over, and oat harvest legun in west; in the wheat section, cutting is well along, yield light; too dry for potatoes; hops in burr and doing well.

Oregon.—Fortland: Harvesting Fall-sown grain making good progress; thrashing begun and quality of berry superior, except in some castern Counties, where shriveled, owing to hot winds; fruits, hops, vegetables, and bernes abundant.

Mfornia,-Sacramento: Weather favorable for Summer crops; grain yield shortest known in many years; fruit and hops short; grapes are the only crop reported an average yield; beaus improving.

WILLIS L. MOORE. Chief of Bureau

### NEW PUBLICATIONS.

THE MYSTERY OF CLOOMBER. By A. Conan Doyle. Published by Geo. Munro's Sons, Vandewater St., New York. Price 25 cents. A new work by this popular author which will be read with interest

ESTHER WATERS. By George Moore, Published by Geo. Munro's Sons, New York, Price 25 cents. A sensational story of life among the Eng-

ish lower classes.

VANTINE'S MONTHLY. Published by A. A. Vantine & Co., 877-879 Broadway, New York. This is an attractive catalog-magazine of

nary articles of interest in the Orient Notes.

The Monthly Illustrator for July is richer in entents and finer in illustrations, if possible, han any of its meritorious predecessors. It has literary contents of the highest possible order, and these are embellished by pictures by the very best artists in the Every number is a delight to the brain and the eye. Nothing better than it, and nothing like it is published anywhere. Published at

99 Fifth avenue, New York. Price 30 cents The Phrenological Journal and Science of Health, an illustrated magazine of human nature. Published at 27 East 21st St., New York. Price 15 cents Premium List and Regulations of the 10th

Annual Fair of the Western Pennsylvania Agricultural Association, to be held at Washngton, Pa., Aug. 27-30, 1895. Secretary, Julius Le Moyne, Washington, Pa. Premium List and Regulations of the 12th

Stock Exhibition Association to be held at Leesburg, Va., Aug. 27-29, 1895. Secretary, H. C. Sellman, Leesburg, Va. The 44th Annual Exhibition of the Lehigh

County Agricultural Society will be held at Allentown, Pa., Sept. 23-27, 1895. Secretary, W. K. Mohr. The 24th Annual Fair of the McLeod

County Agricultural Society will be held at Hutchinson, Minn., Sept. 17-19, 1895. Sec-retary, Harry B. Wakefield. North Carolina Weather During the Year Issued by the North Carolina Agri-

cultural Experiment Station, Raleigh, N. C. Premium List of the Second Annual Fair to be held at New Whatcom, Wash., Sept. 23-27, 1895, Wm. Reilly.

Premium List 36th Annual Fair of the Minnesota State Agricultural Society, to be held at Hamline, Minn., Sept. 9 to 14, 1895.

E. W. Randall, Secretary, Hamline, Minn. Harry C. Jones, the artistic publisher, is ont with a new and most attractive ventur It is The New Galaxy, a monthly magazing with the best quality of literary matter, and illustrations of tic merit. The first number is a daisy, and the succeeding ones are sure to be still better That is Harry C. Jones's way. He always does well at the beginning, and still better afterward. The magazine is put down to the popular price of 10 cents a number, or \$1 a year. Published at 92 Fifth avenue, New

The August (Midsummer) number Frank Leslie's Popular Monthly easily takes the lead of the seasonable illustrated magaines. It appears in a handsome new cover of appropriate artistic design, which will be permanently retained. This new cover is em-bellished with a portrait of the late Frank founder father of illustrated periodical literature in America. An editorial article on "The Traditions and Progress of Illustrative Ar "Not only does the portrait of Frank Leslie adorn our cover page, but his enterprising artistic impulse, exemplified in the motto, Progress and the Spirit of the Age, has animated the making of this, as it will every future number of this justly acclaimed 'Monarch of the Magazines.'" Published

at New York. Price 25 cents. The story of an exiled lottery which, after having been driven out from the United States, is now existing precariously in a Cen-tral American Republic (Honduras), is told by Richard Harding Davis in Harper's Weekly for Aug. 3.

In the way of fashion the number of Har per's Bazar to be issued during the next few weeks will present chiefly elegant outdoor toilettes for garden and lawn parties, driv-ing, the seaside, etc. A story entitled "A Career," by Harriet Prescott Spofford, will appear in the Basar dated Aug. 3.

The leading features of the Review of Rerieus for August are : The editor's review the month; a character sketch of Theodora Roosevelt, by Julian Ralph; sketches of the principal members of the third Salisbury Cabinet, by W. T. Stend; "The Clearing of Mulberry Bend," by Jacob A. Riis; and ublished at New York. Price 25 cents.

The Overland for July marks the beginning the 26th volume of the current serie the 29th year since its birth in 1868. publishers speak of the fact with pardor ride, and state that the magazine is in better ndition than ever before. than this in celebrating the anniversary, by putting out a number more heavily and ar-tistically illustrated than ever before pubimproving.

\*\*Nebraska.\*\*—Lincoln: Small grain harvest nearly completed and some thrashing done, yield very heavy in northern and eastern section, where about haif a crop is now expected; corn in northern part of State .\*\*eds rain, but is not damaged and in southwestern part continues unusually good.

\*\*Kunsus\*\*—Topeka: Abundant rain in west half of State and light rains in east half; greatly benefiting all crops in west portion and permitting thrashing and haying in east portion; harvest begun in western Counties; much corn killed by drouth in Dickinson, Gloud, and Washington Counties.

\*\*Oklahome.\*\*—Oklahoma: Temparature and sunlished by any West Coast publication. literary contents are equally good. Helen Elliott Bandini writes a charming article on the glories of the leading Spanish-American families, and relates the cause of their eclipse, showing why she thinks it is not final. Lient. George E. French tells the story of the mining riots of 1882, in Coun d'Alene mining district, Idaho. Rounsevelle Wildins a series of articles descriptive of the best known parts of California, under the

# THE GARDEN.

Pluckings.

When light Summer rains fall, the Tand should be cultivated, for if this is not done the moisture soon evaporates and is lost.

The most perfect of the famous Colorade potatoes have been grown after alfalfa, and a rotation including it is being capidly adopted in that potato country. Whenever the country becomes agitated by the discovery of some new weed, this truth should be considered: that weeds do little injury to good farms, and that good farming exterminates weeds.

Blackberries and raspberries may be grown quite as well in the partial shade between orchard trees as if fully exposed to the sun. Successful double cropping should, however, be accompanied double applications of plant food, otherwise the trees or the berries will be

The greatest difficulty in the growing of late peas has been the aptness of the plants to mildew. This is doubtless on account of the heat of the time, by which the growth of the mildew is so much encouraged. But by spraying the peas the mildew germs are destroyed, and this excellent vegetable may be grown until the last of the season.

The time for pruning all kinds of flowering shrubbery is immediately after the blooming, then the new growth of all m improved, while if the pruning is done early in the Spring those shrubs that bear their flowers on the last year's growth are destroyed, but those which bloom on the Spring growth are uninjured. Spring pruning, however, is safe for any one or all.

It will be found an easy remedy untangle themselves. Rve flour is cheap and as effective as any other. It should be done in the afternoon, so that the dampness of evening will make it most effective. This device is applicable to

Rotation in crops does not apply to grawberries or most of the garden plants. For instance, the asparagus bed, once well planted, will remain in its full bearing condition 20 or twice as many years. it is only reasonably well fertilized. So with the currant and the gooseberry bushes, and so it may be with the small fruits that reproduce themselves annually by runners or suckers. But one thing is needful-namely, to feed adequately of whatever the special necessities of the plant require, to prevent weeds, and to keep the soil well tilled.

### Club Root Cabbage.

B. D. Halsted, of the New Jersey Station, has been experimenting on preventives of this disease, and arrives at the following conclusions:

"Air-slacked stone lime is a preventwe of the club root of cabbage. The hest results were obtained from the smallest application—that is, at the rate

"A half-strength solution of corrosive per acre cannot be recommended; for their elevator annually. although an apparent preventive of club root, the solution is destructive to the plants. A weaker solution might prove just as effective as a fungicide thout interfering with growth.

" Neither half-strength bordeaux mixture nor ammoniacal copper carbonate, when used at the above rate, diminished the amount of clubbing and both were very injurious to the plants."

### Early and Late Planted Potatoes.

L. E. Jones, of the Vermont Station, calls attention to the greater liability to disease of late planted potatoes. Ordinarily the early crop of potatoes is less productive than the later, owing to the fact of the tubers usually maturing in July, the driest month of the year, but in 1894 the season was so peculiar that the early crop was the most productive. It is believed that for the average season late planting is the most profitable, in spite of the fact that the plants must be sprayed to protect them against the late blight.

The author advises the use of clean seed, planting in clean soil, and the use of clean fertilizers. Where the seed potatoes are not known to be free from the scab it is suggested that they be toaked in a solution of corrosive sublimate before planting. After such a treatment the yield of merchantable potatoes in one of the author's experiments increased more than 50 per cent. in 1894.

Potatoes. The Maryland Experiment Station finds that when crimson clover was plowed under as a green manare early in May the yield increased by more than 19 bushels per acre. Spraying with bordeaux mixture afforded a larger yield than the untreated plat, and when apraying was begun early the yield was further increased. Distances of 141 by 80 inches afforded a larger yield than distances of 12 by 36 inches. Deep cultivation, ridge culture, and cultivation continued late in the season proved alightly advantageous. Small whole seed potatoes afforded a larger profit than large whole potatoes and cuttings.

### Rotation.

All proper farming involves rotation. Seed-producing crops must be alterhated with nitrogen-producers.

One kind of crop will kill out one

### SWEET POTATOES.

The Secret of Success in Raising Then on the Eastern Shore.

For many years now the sweet pota-toes from the Eastern Shore of Maryland have been famous, and the farmers who have raised them have found good profits in the industry. Nearly all of the land adapted to the potato is taken up, and the output has reached almost its limits. The question of what makes the Eastern Shore potatoes do so well, and have a superior quality, has been asked by many intelligent observers. The farmers do not give much informa- acre. tion other than they plant the seed, cultivate the vines, and the soil does the rest. The soil is not so very different from that in many other parts of the South, and the cause cannot be in that,

But a feature of the farmers' work may throw some light on the subject. Years ago pine shatters were spread upon the soil to fertilize it, and to-day this forms the chief manure for the vines. The pine shatters supply plenty of carbonaceous matter to the soil, and therein is the great secret of the success of potato-growing here. Other improvements of the soil are not made, and cultivation is not superior to that given to potatoes elsewhere. In fact, on many small farms the potatoes are neglected, compared with the cultivation that this crop.

pings of pine shatters, and cart them to the barnyard late in Summer. These are spread about a foot thick in some two or three inches of dirt. Then another too often it is all the owner's fault. layer of shatters is made, and another of soil. All through the Fall and early against the pestilent cabbage worms to Winter the pine shatters in the bed rot of the plants where the worms love to do they are so far gone that they will their mischief. They get stuck in this readily mix up with the soil. The shatadhesive matter, especially if it is a little ters decompose without losing any of the damp with the dew, and are unable to elements of fertilization. The woody material mixes with the layers of soil, and by Midwinter this mixture makes a perfect manure. When placed upon the potato field the farmer has almost a perfect fertilizer for his potatoes, and at no cost. The farmer is composting his manure bed every year, and nature is supplying new material for him with each year's crop of pine shatters. The same process to a certain extent could be obtained from buried forest leaves in the North, although the pine shatters may give more carbonaceous material. They are eminently fitted by nature for

> this purpose. This really is the secret of potato culture on the Eastern Shore .- Germantown Telegraph.

### Beans, and Where They Come From.

Until within the last few years we have been calling upon Austria and other European countries to help supply our enormous demand for beans. While last year the imports amounted in value to \$3,000,000, this year Europe has called for beans from America, and large consignments have been sent over.

"Cas lime, kainit, and wood ashes first. In the city of Grand Rapids one search Association has been investigatare all equally ineffective as club root firm handles more beans yearly than ing the matter for nine years, and has any other concern in the world. Besublimate at the rate of 2,160 gallons being about 530 bushels-pass through soon, but adapts itself to the defective

Many beans come to us from Canada.

of the beans for the Eastern market, than Buffalo, or further West than To-

other city. New Orleans has proved a car-loads annually. The miners of Pittsburg and the surrounding country contowns buy many car-loads to supply the lumbermen. The Southern cities are not far behind, with the demand yearly increasing. Beans are the same flavor the world over. While the American beans are very uniform in size, the extent as to make it necessary to sort

upon it for success in cooking. While beans will grow on any land that will produce wheat, much experience and skill are essential for their successful cultivation.

The yield is about the same as that of wheat, from 12 to 30 bushels to the acre, but the returns are much larger, being, with wheat at 50 cents, nearly three times better.

### How to Use Nitrate of Soda.

This fertilizer is very quickly soluble and thus acts immediately, being taken in by the roots in a few hours after it is applied to the land. Hence it should only be used when the crop to which it is applied is in a quickly growing condition. Thus, it is a waste to use it in the latter part of the season, and the best time is in the Spring or Summer soon after the crop is well started in growth. It is advisable to divide the quantity, sowing half of it later and when the plants are in an active condition. For onions, it should be sown in three portions, the first when the seed or the sets are put into the ground, the second two weeks later, and the third two weeks after the second, thus prekind of weeds and another another kind. venting any loss of the nitrate in the The same with insects and crop dis- soil by washing into the subsoil before the plants can dispose of it.

### The Field.

Not hard work, but poor care, destroys the average farm horse. English farmers are finding that they an grow alfalfa to advantage.

Rape will produce 10 tons of green forage on an acre of good land. Rape has twice the feeding value of

reen clover, and is even more palata-Lean sheep may be turned into a field

of rape, and taken out fat two months F. T. Tracy, of Stacyville, Me., who

Prof. Roberts computes that there is loss of from 48 to 54 per cent in value of manure that is left exposed to

A good deal of money is being made by breeding Shetland ponies. They cost about as much to raise to three years as a steer, and sell for from wice to thrice as much.

Permanent pasture, if it is to be made the most of for grazing purposes, should never be mown. Mowing encourages the stronger-growing grasses, makes the pasture much coarser, and destroys that fine bottom herbage of grasses and clover, which is an essential characteristic of all good pastures.

Study how to tend and shape the many progressive Jersey farmers give to hoofs of the colt, and endeavor to know nough concerning the horse's foot and The farmers gather last year's drop- its care to keep out of the hands of the bungling blacksmith. A fine, spirited horse may have a bungling gait or a lack of endurance from bad feet, which convenient place, and then covered with will hurt its value very materially, and

The cultivation of corn should not stop until it is impossible to get through the rows easily, and at the last working sprinkle some cheap flour on the hearts and decompose, and by Christmas time it will be a good use of the money to sow 50 cents' worth of white turnin seed to the acre, immediately after the cultivation, and on the soft, mellow soil. It will be another good investment to sow 50 pounds of corn fertilizer to the acre at the same time.

The good effect of stirring the soil about the corn plants is unquestioned and unquestionable. That soil made loose and open on the surface absorbs moisture to a considerable extent is also unquestionable, and, as this is useful to crops, it follows that the good farmer will not neglect to do this work as long as it is possible to be done. It has been found by many careful experiments that the yield of corn is increased to a much greater extent than the cost of the work which really costs nothing if done at times when otherwise the man and team might be idle, but allowing the hiring price for both.

### Permanency of Rye Grass.

The permanency of rye grass has een earnestly discussed in Great Britain for 50 years. Upon this fact depended its value for permanent pastures. One party contended that the grass would certainly die out in three years, another extended the period to six, and so on, all writers admitting that New York and Michigan are States in the plant died out by its rapid growth which the culture of beans is carried on exhausting the soil of its natural food. to the largest extent, Michigan ranking The Aberdeenshire Agricultural Recome to the conclusion that even on tween 700 and 900 car-loads—a car-load | poor soil rye grass does not really die so conditions and assumes a form so different in appearance from rye as not to be the Canadian bean ranking well with recognised as that grass. Furthermore, it now appears—and this is the point of Canada and New York supply most practical importance-that rye grass may not only be kept in its well-known Michigan seldom shipping further East and valuable form, but that having assumed the degenerated form, it may peka, as beyond these points there is be brought back to the original condicompetition with California, the matter tion. At the present moment only one of freight being an important considera- link in the chain of evidence is wanting; i. e., while leaves closely agreeing While it is generally supposed that with true rye grass leaves have been Boston consumes more beans than any produced from the degenerated form, the flower has not yet been producedformidable rival, demanding about 200 at least with certainty. It may, however, take some years before this point can be reached, and in the meantime sume many beans. Duluth, Minneapolis, the actual results got, and the observa-St. Paul, and other Northern lumbering | tions that have been made, are stated, reserving freedom from committal to any final conclusion.

# Curing Oats and Peas.

This mixed crop is cured as hav is. being cut by the scythe or the mower or sizes of European beans vary to such an reaper in the usual manner. It is dried as hay is, and, as it will not keep well them two or three times before they are in stacks unless these are well covered, put upon the market. Uniformity of it is best to carry the fodder at once to size is very important, as much depends | the barn. As there will be a waste in feeding it with the grain, when it has been ripened, it will be better to thrash out the grain and grind it, and feed it with the cut fodder. The green fodder cut before the grain is ripe is all eaten without waste, and is excellent for cows in the Winter. It is not a good crop for the silo, as it tangles together so much, and must be cut down to get it out easily.

The Oklahoma Station finds that with the Jensen hot-water treatment for smut the yield was increased 1.41 bushels per acre. When the seed bed was rolled twice the yield was slightly reduced. Broadcasting afforded a smaller yield than did the press drill. Subsoiling reduced the yield on alkali land. Fifty varieties, of which the seed was grown in Oklahoma or farther south, averaged 13.8 bushels per acre; 34 varieties from the States farther north 12.4 bushels. The variety Lincoln is recommended. Deep Fall plowing gave a larger yield than deep Spring plowing or shallow Fall plowing.

It has been found that the cucumber has a temperature one degree below that of the surrounding atmosphere. The expression "Cool as a cucumber" is, therefore, scientifically correct.

### Results of Corn Experiments by the Illinois Station.

The test of varieties occupied 84 fortieth-acre plats. Mixtures of 2 and 4 varieties gave larger yields in 1894 than single varieties, though mixtures did not afford the larger yield every year. The hight of stalks and size of ears increased with lateness of maturity. Of 13 varieties tested during five years Boone County White gave the largest yield, 71.5 bushels per acre, followed by Burr White, 61.9 bushels, and Learning, 60.7 bushels per acre. The medium maturing varieties averaged for seven years 65.2 bushels, the late varieties 58.8 raises 60 acres of potatoes each year, uses 1,500 pounds of phosphate to the bushels, and the early varieties 55.5 bushels; the yellow varieties averaged for seven years 60.3 bushels per acre, and the white varieties 63.2 bushels.

Burr White was planted at intervals of a week from April 6 to June 22; the average yield for seven years was greater from planting from May 11 to May 18. The variation was slight for the dates between April 27 and May 25.

In 1894, 2, 3, 4, and 5 kernels were planted in hills 3 feet 8 inches apart each way; the yield from planting 2 kernels was 40.2, 3 kernels 46, 4 kernels 49, and 5 kernels 48 bushels per acre. In another field with 3 kernels per hill the yield was 44.6, and with 4 kernels 50.5 bushels per acre.

Corn grown in rotation with oats and

clover yielded 40 per cent, more than corn in continuous culture.

From cross-fertilized plants seed was selected in 1892 and again in 1893, the latter, together with both parent varieties, being used for the crop of 1894. The average increase in yield in 1894 from the cross-fertilized seed was 12 bushels per acre.

The tassels were removed from stalks on alternate rows; on the detasseled rows the yield was 56.5 bushels, and on those not detasseled 50 bushels per acre. The increase in yield was greater where the tassels were removed early than where they were removed later. Contradictory results secured in previous years and at other stations are briefly noted. "If an increase in grain is secured by detasseling, it is most likely to be on poor soil or in dry seasons. It seems that the injury done the plants sometimes reduces the yield."

### Detasseled Corn.

For four seasons the Cornell Experient Station has practiced detasseling

corn, with the following results: In 1890 a gain in total yield of corn of 50.6 per cent.

In 1891 a very slight gain. In 1892 a gain in total yield of corn f 21 per cent. In 1893 a gain in total yield of corn

of 19.3 per cent. Also the results of the experiments at the Nebraska Experiment Station:

1. The detasseling of corn seems to be a positive detriment and loss, as shown by the results in two years' trial. This not conclusive evidence, but strongly indicative of what we may expect from the practice.

2. The expense is about \$1.25 per acre, and would require in increase yield from three to five bushels of corn to pay for the labor involved, this depending on the price of corn in any given locality.

in 1892 are strongly contrasted and so widely divergent, yet we do not deem them decisive. We propose to repeat the experiment on still larger areas and with different varieties of corn and note the results before we announce the positive rule that "detasseling does not pay."

Tobacco. It has been demonstrated that the to bacco leaf takes fertilizers from the soil worth one cent for every pound of leaf, and the same value is taken in the stem and stalks for every pound of leaf, making the total loss of fertility in the soil equivalent to as much fertilizer as would cost two cents a pound of the crop. They have correspondents all over the country, This shows that when the low qualities of leaf bring the grower only two cents a pound it does not pay for the fertilizer cost of the labor.

The Paris green method is coming apidly to the front for the tedious and disagreeable "worming." The green is mixed with common land plaster at the rate of a tablespoonful of the poison to a couple of gallons of plaster. This is dusted upon the plants while they are wet with dew. Some use the green with water, the same as for potato bugs, only making the mixture slightly weaker. Poison should not be used late in the season.

### A Cheap Silo.

A silo that will hold 150 tons of fodder, which is enough for 30 cows for six months' feeding, may be made for \$50; or the small cost of 33 cents a ton for the feed. It is very certain that the silo will be easily paid for the first year. And as cattle will be cheap in consequence of the short feed, the forehanded farmer who is provided with a silo, and a crop of corn in it, may make something by buying some good cattle that must be sold for want of subsistence for them.

### Wheat in England.

English buyers make important differences in price for wheat from different countries. This is shown by the following quotations from the Mark Lane Mail of June 10. The figures mean shillings (24 cents): WHEAT.

V	" Red	199	27	
	FOREIGN WHEAT. Per	496	lbs.	
1	Saxonka	. 28	29	
o	Taganrog, Hard Odessa Ghirka	- 934	1 95	
3	River Plate	. 24	25	
t	New Zealand	. 25	27	
3	Californian and Oregon	, 25	20	
	Duluth and Hard Spring	. 25	3 33	
	India, Calcutta, Bombay, and Karachi Persian Gulf	. 23	26	l

### NO MORE SEED DIVISION.

Secretary Morton Abolishes a Branch

of His Department. It is pretty definitely understood that the Seed Division of the Agricultural Department will cease to exist after October next. Some time ago Secretary Morton submitted to the Attorney-General the question of whether or not he had the right under the law to abolish this work, which he conceived to be useless. The Attorney-General has within a short time given the Secretary an opinion, in which he declares that the Secretary has that authority, and, acting upon this decision, the Secretary has, it is stated, communicated to M. E. Fagin, the Chief of the Division, the official information that there will be no further information that there will be no further need of his services and his clerks after Oc-Mr. Fagin has, it is understood, tendered

taken occasion to the Secretary, and has taken occasion to congratulate him upon this step, which, Mr. Fagin says in his letter, was recommended by him in his first annual re-

port.
This action of the Secretary will throw out of employment 10 people, besides the Chief, at present, and will result in the depriving of fully 150 more of occupation during the busy season—the Winter months—when it is customary to send out the bulk of the seeds. The Chief has a salary of \$2,000 a year. There are two clerks at \$1,200 and eight at \$840. The extra force employed in the Winter season is paid at the rate of \$1.50 per day. It is probable that Mr. Fagin will be appointed to another branch of the service after his resignation as Chief of the Seed Division

The Attorney-General in his opinion said that under the law the Secretary had the right to discontinue the distribution of all but rare and unusual seeds, but that he could advertise for bids for seeds, and that he could also reserve the right to reject any or The Secretary advertised for bids and re

cted them all on the ground that they were not for rare seeds.

### SECRETARY MORTON'S REPORT.

The Chief of the Agricultural Department Shows a General Pruning of Expenses.

The annual reports of the several Bureau ficers of the Agricultural Department for the fiscal year just ended will show a general pruning of expenses. The figures in Secretary Morton's report will show that the reg-ular expenditures for the Department during the year aggregated about \$1,800,000. The appropriations for the same period reached appropriations for the same period reached \$2,506,915. There will, therefore, be covered back into the Treasury about \$500,000. Last year \$627,115 was covered back into the Treasury. The exact figures for that year are \$2,603,500 appropriated, \$1,976,385 expended.

The total amount covered back into the

Treasury from the appropriations made for the work since the beginning of the Admin-istration aggregates \$1,300,000. This fact will be pointed out in Secretary Morton's report. Another fact to which attention will be called in the forthcoming reports is that with a few exceptions all offices in the Department are now comprised in the classified retary, Assistant Secretary, their private sec-

retaries and several laborers.

Several important changes in work and organization are noted in connection with the close of the fiscal year. Two Divisions, one of Agrostology and the other of Agricultural Soils, have been created and now go into effect. Professor Lamson-Scribner is Chief of the former and Professor Milton Whitney is at the head of the other. A Dairying Di-vision has been created and goes into operation as a part of the Bureau of Animal In-dustry, and the rearrangement of the sys-tem of gathering crop statistics also takes effect. The new regulations of the Bureau o Animal Industry take effect immediately. All special investigations carried on last year will be continued through this year.

### WILDCAT CROP REPORTS.

3. Although the results of experiments Assistant Secretary Dabney Denies That the Agricultural Department Gives Tips.

> tural Department, when asked concerning the statement of a bro'er that he had been given approximately accurate information on the July crop report in advance of its official promulgation, said: "It is the same old story that is raised every once in a while. We deny it absolutely. If these reputable brokers in New York say those figures came from Washington let them prove it.
> "The truth is that there are plenty of other

cople ontside of this Department who are en raged in the work of preparing statistics of the crops in the interests of the exchanges They sell their information. For example there are a number of people, formerly in this office who are now in Chicago engaged in making up crop reports for the exchanges. doubtless, in many cases, the same correspon ents that the Department has. When they left here they undoubtedly had lists of our correspondents and have presumably made needed to give back to the soil what the crop has taken from it, not counting the deavored to change our correspondents as far as possible since then. Still, the crops are the same whoever reports them, and their reports might reasonably be expected to be as accurate as ours. If a man has a set of these figures it is money in his pocket to say that hey emanated from the Department of Agrialture. The truth is that they don't, and that is all there is about it."

### ZING ONLY AN EXCUSE.

Germany's War on American Dried Fruits Fails to Conceal Its Motive.

The stringent regulations of Germany re arding the importation into that country American products have again been brough to the attention of the Agricultural Depart ment in a report by European Agent John Mattes, jr., on American evaporated or dried in the German Empire. Shippers of these fruits are given warning of the estrictions imposed by Germany, which the Department views as commercial rather than nygienic, and merely intended to shut out merican trade.

The report cites a recent court trial at Frankfort-on-the-Main, to determine whether these dried apples, or "ring apples," were impure and injurious to public health and subject to seizure under the provisions of the Pure Food law. Government experts testified that they were sprinkled with a tinge of ecetate of zinc to give them a bright color and more inviting appearance. Apples so sprinkled, they claimed, brought on indiges-tion. The American goods were ordered destroyed as unwholesome.

Exporters are advised that if they wish to

increase the trade with Germany, now assuming large proportions, they should be careful not to dry the fruit on zinc grates, but to use grates made of cane. The Department officials say they are confident that if any zinc is introduced in the fruits the amount is infinitesimal and cannot be injurious.

### To Stop Confiscation of American Apples.

Consul Robertson, at Hamburg, acting on instruction from the State Department, has obtained permission from the Chief of the Hamburg Foreign Office to procure samples and an analysis of any American dried apples which may in the future be confiscated on the ground that they are alleged to contain zine. This action is taken with a view of stopping the confiscation of American apples by German authorities.

# Stop Naturally! Don't tobacco spit and smoke your life away, and go on suffering from nerve troubles that make the strongest man weak, dizzy and undecided, prevent him from doing the right thing at the right time, all because the blood is tobacco-poisoned. The natural way to stop a thing is to get a distaste for it. You can stop naturally this brain-weakening, OUR CUARANTEE POINT. One box, Mi three

### Disease Among Poultry.

Experts of the Agricultural Department have been carrying on an exhaustive investi-gation of infectious diseases among poultry. The prevalence of protozoa among turkeys was the subject of a special inquiry. The re-sults show that the disease attacks the young by preserence, and that infection does not take place till later on. It runs no regular course, but varies in severity, duration and termination. Though restricted to the caeca and the liver, its action is severe enough to prove fatal to many affected turkeys. The disease process is always associated with a protozoan parasite of very minute size. Cer-tain flocks only are affected and the disease becomes perpetuated and diffused among neighboring flocks. The remedy recom-mended by the Department is to entirely de-stroy the diseased flocks and obtain new animals elsewhere, after a thorough cleansing and disinfection of the territory occupied by

### The Exhibition at Denver. Intended exhibitors of fruit, grain and

agricultural products at the International Mining and Industrial Exposition, to be held in Denver next year, are reminded that the greater part of the exhibit must come from year's crops, as the Exposition opens on July 1. An especial feature is to be made of agricultural and horticultural products at this Exposition, and exhibits are being sought from every state and territory west of the Mississippi River. It is expected that the irrigation feature will prove especially valuable, as for the first time in the history of the United States the great science of irrigation will be exemplified upon a scale commensurate with its growing importance.

It will be a prominent educational feature of the Exposition. A large portion of ground will be used exclusively for the purpose of showing all irrigation processes and the various instruments for recording the volume of water in irrigation canals and rivers. The evolution of irrigation will be demonstrated from the most ancient to the most modern systems. It will naturally attract many collateral displays, such as engines, pumps, Many varieties of fruit trees, grains and grasses, vegetables, melons and vines will be grown, Assistant Secretary Dabney, of the Agricul- and other growths which constitute the basis of large manufacturing interests. As no two other and at different periods of the same season, this interesting process will be shown in all its important features.
Arizona, Colorado, California,

Wyoming, New Mexico, Nevada, Utah, Washington, Montana, and Oregon are expected to make valuable displays of agricul-tural crops grown by irrigation.

### An Agricultural Congress.

The Belgian Minister has informed the tate Department that the third International Congress of Agriculture will be held at Brussels from September 8 to 16. The Belgian Government has expressed a wish that the United States be officially represented at the

### FAIRS.

The Great Inter-State Fair of the Bethlehem Fair and Driving Park Association will be held at Bethlehem, Pa., Sept. 17-20, 1895. cretary, H. A. Groman, Room 8, P. O. Building.

Patrons' Eucampment and Exhibition of

the Pennsylvania State Grange will be held at Center Hall, Center County, Pa., week of Sept. 16, 1895. Secretary, R. H. Thomas, Mechanicsburg, Pa. Annual Fair of the Western Pennsylvania

Agricultural Association will be held at Washington, Pa., Aug. 27-30, 1895. Secretary, Julius Le Moyne. A Midwinter Exhibit of the Agricultural

and Poultry Society of Mifflin County, Pa., will be held at Lewiston, Pa., Dec. 10-13, 1895. Secretary, A. T. Hamilton. Sixth Annual Meeting of the Mt. Gretns

Agricultural, Mechanical and Industrial Exposition will be held Aug. 19-24, 1895, at Mt. Gretna Park, Lebanon County, Pa. Secretary, S. P. Heilman, M. D., Heilman Dale, Lebanon County, Pa. Annual Fair of the Harford Agricultural

Society will be held at Harford, Pa., Sept. 25, 26, 1895. Secretary, E. E. Jones. The Second Annual Fair of the Kittanning Fair Association will be held Aug. 20-23, 1895. Secretary, T. McConnell.

The annual fair of the Mille Lacs County Agricultural Society will be held at Princeton, Minn., Sept. 4-6, 1895. Secretary, J. W. Hartman The Seond Annual Exhibition of the Buck-

eye Poultry Association will be held at Dayton, O., Dec. 26-31, 1895. Secretary, C. H. Clark. The First Annual Exhibit of the Whitman

County Fruit and Agricultural Society will be held at Colfax, Washington, Sept. 24-26, 1895. Secretary, Zell M. Beebe. The first hay press ever in Quitman

County, Miss., was set up there a few days ago. This seems an odd thing in one of the oldest agricultural regions of important articles so essential in time of the country, but the explanation is in war." the fact that hitherto the land thereabouts, as in many other regions of the that statesmen of to-day might emulate. South, has always been devoted solely to It must ever be the pride of our Nation the growing of cotton. .

### Permanent Meadows.

Strong soils, whilst they are frequently not the best for cropping purposes, can in most cases be converted into excellent pasture. This is largely due to the fact that such soils are greatly improved when under pasture, as the minute runlets that are made by earthworms, decaying roots of plants, and other agencies, are not obliterated by the tillage operations involved in arable farming, and for the same reason the effects of the Winter's frost in ameliorate ing the soil are not destroyed. When such soils have been successfully laid down, either for pasture or for mowing purposes, the cost of maintaining them in good condition is very much less than when the soil is light and friable. This is undoubtedly due to the fact that the better physical condition of strong soils when under permanent hay or pasture enables the ample stores of plant food generally present in such soils to be more fully made use of. If such a soil has a healthy subsoil into which the more deeply rooted pasture plants may penetrate, success will be more certain. On the other hand, if there is a hard substratum of poor boulder clay or till. or of a poor rock such as we find in a silurian country, then the possibility of improvement is much more limited.

### Disposition of Bel Grass.

The coarse grass which grows in rivers, commonly known as eel grass, is not strictly a grass, but belongs to a family of water plants known as pond weeds. It is found abundantly in fresh water, often choking the channels and causing the streams to overflow and make marshes. It may be dragged out of the streams by hooks set in a stout bar, much as in a harrow, and when dried makes a feed as nutritious as straw. But, if thrown into heaps until crops require the same amount of water, and it decays, and then composted with lime each one is irrigated independently of the and manure, it makes a good fertilizer. and manure, it makes a good fertilizer. Or it may be used as litter in stables. Its true name is valisneria, or tape grass, on account of its thin, long leaves, waving as they move with the current of the water. This grass may be usefully spread on meadows, as it is taken out of the streams, as a protection in the Winter, and, as it decays in the Summer, it forms some useful plant food. The only

### come a nuisance. Lime on Soil.

objection to this is that the rotted grass

may be raked up with the hay and be-

Mr. John Milne, an eminent Scotch agricultural chemist, in discussing the question whether lime should be applied to land in the caustic form or as marl or chalk, says that it seems to him immaterial whether lime is applied in the caustic or carbonated state. It is believed that caustic lime will partly remain caustic in the soil for a considerable time, and that its action on the organic matter of the soil is more energetic than chalk, marl, shell sand, or other forms of lime salts. From what he has seen on reclaimed land, where lime acts most markedly, he thinks the various carbonates-chalk, marl, shell sand, etc.-act as powerfully as caustic lime, and these seem even more apt to burn—i. e., produce yellow spots in the oat crop, and hoven in light soils—than even caustic lime. If carbonate of lime is used nearly double weight, 50 instead of 28, is required to give the same amount of lime. Sulphate of lime, or gypsum, which is to be got cheap in some localities, is as useful as lime on some soils, and has a more favorable effect on leguminous crops than caustic lime.

### As True Now as Then. In 1824, Gen. Jackson used the fol-

lowing words: "Providence has filled our mountains and our plains with minerals-with lead, iron and copper-and given us a soil and climate for the growing of hemp and wool. These being the grand materials of our national defense, they ought to have extended to them adequate and fair protection, that our own manufacturers and laborers may be placed on a fair competition with those of Europe

Gen. Jackson was an American patriot that we once had such a man among us.



Preserving Time.

Said Mr. Baldwin Apple

"And there is Mrs. Clingstone Peach, So mellowed by the heat, Upon my word, she really looks Quite good enough to cat.

"And all the Misses Grabapple Have blushed so roay red. That very soon the farmer's wife To pluck them will be fed.

"Just see the Isabelias;
They're growing so apace
That they really are beginning
To get purple in the face.

\*Our happy time is over, For Mrs. Green Gage Plum

"Yes," said Mrs. Bartlett Pear, "Our day is almost o'er,
And soon we shall be smothering
In sirup by the score."

And before the month was ended The fruits that looked so fair Had vanished from among the leaves, And the trees were stripped and bare

They were all of them in pickle, Or in some dreadful scrape;
"I'm cider," sighed the apple;
"I'm jelly," cried the grape.

They were all in jars and bottles, Upon the shelf arrayed; And in their midst poor Mrs. Quince Was turned to marmalade.

### ABOUT WOMEN.

MISS RUTH BURNETT, of Boston. after whom "Baby Ruth," the eldest daughter of the President, was named. has recently entered the Catholic convent of the Sacred Heart at Albany.

TO THE REV. PHOEBE HANNAford belongs the distinction of being the first woman ordained to the ministry in America. At the time of her ordi nation only three women besides herself in the world had received orders. She a book of her early experiences.

THE GRAND-DUCHESS ALICE of Hesse, the eldest daughter of Queen Victoria, in bringing up her daughters was obliged to practice the most rigid economy. These Princesses have all however made wealthy marriages. Princess Irene married Prince Henry of Prussia, Princess Elizabeth is the Grand Duchess Sergius of Russia, and the Princess Victoria is the wife of Prince Louis of Battenburg; while the youngest, Princess Alix, has made the most brilliant match, being the bride of the Czar.

MISS HARRIET HOSMER is the foremost woman sculptor of America. She was born in Massachusetts 60 years ago, but for the past 40 years has been a resident of Rome. Miss Hosmer has made a gift to the Art Institute of Chicago of the famous cast made by her in 1853 of the clasped hands of Robert a burn. There is nothing more soothing. Browning and his wife. This is the cast | Mica in stove doors may be easily cleaned mentioned in Hawthorne's "Marble by removing, and thoroughly washing with Faun." The autograph of "Robert Browning, Rome," is upon the wrist of while. one, "Elizabeth Barrett Browning, Rome," on the wrist of the other. Miss will take stains out of lines. Tea stains may Hosmer had refused an offer of \$5,000 be removed by immersing in a strong solution Rome," on the wrist of the other. Miss for this work. She was paid \$25,000 of sugar for a few moments, then rinsing in for her figure of Queen Isabella for the

MISS HELEN GOULD, the eldest daughter of the late Jay Gould, is in no sense of the word a fashionable girl. She dresses plainly, and is seldom seen at social gatherings in the gay world. She views life from a very common-sense standpoint, and is doing much good with her millions. She is very fond of children, and makes the little waifs of the East Side tenements her especial care. Two schools on the East Side are almost entirely supported by her. She frequently entertains at her country home on the Hudson 15 or 20 tenement children, for a week at a time, where they are given an abundance of good food and clothing, and many games, ponies and carts placed at their disposal.

MANY COUNTRY GIRLS IMagine life in the city the one thing most of all to be desired. They become tired, perhaps, of the monotony of their home duties, and think that if they could only find work in the city they would get good wages, dress well, and with gay city acquaintances and amusements lead a pleasant life. If these girls could only be persuaded to profit by the experiences of their cousins and neighbors who have found to their cost that the city is full of dangers, and many are the pit-falls spread for the unwary. A few, it is true, do secure firstclass posts, but these are always girls poesessing unusual aptitude or skill in some particular branch; but how few in comparison to the many thousands who, if successful in securing positions, receive small wages, barely enough to provide meager food and most uncomfortable lodgings. They can save nothing, and if they fall ill, as many do in the unusual atmosphere, they are soon in debt, possibly lose their places, and if unable to return home are soon objects of charity. There are many girls in every city, disappointed and home-sick, longing with all their hearts for the green country, to whom the sight of shady woods and cool streams rippling over mossy pebbles would seem like a

The farmers' wives and daughters have no harder time than other women. have no harder time than other women. put to soak an hour before needed, as it dis-

work is often hard, but no life is entirely free from worry, and city women and girls who have to work, have many cares also, and often suffer many things their country sisters never do; lack of nourishing food, often crowded and almost stifled in tiny rooms in which the air is most impure, intense heat in Sum-mer, and cold in Winter for lack of fuel. Of course there are exceptions, but usually in the country one finds plenty to eat, an abundance of fire wood, and

certainly pure air to breathe.

"God made the country, and man made the town," and no one can live near to nature without becoming nobler and better, even though they think they are too busy to notice how blue the sky is, how sweetly the birds sing, or how fragrant is the breeze which blows through the pine woods. Farm life need not be narrow; most communities to-day, large and small, have their literary or social circles; so many books and papers can now be bought for a song, and by exchanging with one's neighbors the pleasure and profit doubled. And how can one be lonely or feel themselves useless, when there is always some little kindness to be done to brighten life a little for one's own dear home people, neighbors or friends? Dickens said, "No one is useless in this world who lightens the burden of it for another"; and as for being lonely, some of the saddest, loneliest lives have been passed in the city's crowd.

So, if the country girl is wise she will make the most of her home, for its possibilities are many. Mether surely needs the strong young arms to help her, and girls all need their mother's loving training to prepare them for the little home of their own, of which every girl is at the present time engaged in writing dreams, where they should prove such good housekeepers that John will never think to suggest that mother did thus and so.

"Then stay at home, my heart, and rest, The bird is safest in its nest. O'er all that spread their wings and fly A hawk is hovering in the sky. To stay at home is best."

### Household Hints.

To remove white spots from a varnished surface, hold a hot flat-iron over them for a

Grass stains on wash fabrics may be removed with molasses. Rub well with the mo-lasses, and spread out in the sun for an hour or two.

When the hands are badly stained from fruit or house cleaning, use a piece of lemon as you would soap. The stains will quickly

Soap should never be used on oil-cloth, as it fades the colors. When the oil-cloth has become dim, it may be beautifully brightened by a thin coat of copal varnish.

A bottle of linseed oil and lime water, mix ed in equal quantities, should be in every

vinegar somewhat diluted. If the black does not at once come off, let it soak a little If applied immediately, powered starch

soft water. If after cleaning silver it is rubbed with a piece of lemon, then washed and well dried,

receives a brilliancy not otherwise obtain ed, and keeps clean much longer than with ordinary cleaning. Kerosene is a valuable assistant in washing

clothes that are very much soiled. Put three tablespoons kerosene into three pails boiling water into which soap has been shaved, and in this allow the clothes to soak over night. A very simple and effective way to keep

ants from the sugar pail is to draw a circular chalk line around it an inch or two wide. The feet of ants are said to be hollow, and the dust of the chalk fills them so they cannot travel. To remove mildew, thoroughly dissolve a teaspoon of chloride of lime in a quart of

water, and strain; then dip the stained part in it, repeating the application if necessary. Care should then be taken to wash the lime from the garment. To protect the kitchen floor from the grease from the frying pan, cover all frying food with a perforated tin pan, such as are now sold for a nickel. The perforations let out the steam, but not the grease, and the

to remove. Besides daily care, the kitchen sink should once every week receive a special cleaning. A piece of washing soda the size of an egg should be dissolved in half a pail of hot With half of this give the sink a good scrubbing with a stiff brush, then wash out with a coarse cloth and the remaining water,

### A Dozen Uses for Salt.

To preserve lemons, pack them in salt. Eat salt on melons and nuts to prevent

then a final rinsing with boiling water.

A pinch of salt put into the starch will prevent its sticking.

A rough flat-iron may be made smooth by

rubbing it, when warm, over a teaspoon of Small doses of salt at short intervals will op hemorrhage of the lungs. For stings and insect bites apply wet salt

and bind on tightly.

If your fire is slow in kindling throw on a little salt- and it will soon burn briskly.

Colored muslins likely to fade, when "set" with salt and water before washing, will not lose their brightness. This is especially true of blue.

sweeping. It will effectively lay the dust and brighten the colors.

Neuralgia and other severe pain is re-lieved by filling a muslin bag with salt, and applying as hot as possible to the aching

Cut flowers will last twice as long if cut nowers will last twice as long if placed in sait and water, daily renewed.

Nothing is more refreshing and strengthening, especially to delicate children, than a sait-water bath. A teacup of sait in the bath night and morning will be found most beneficial. If sea-sait is used, it should be not to each an archive the said of the said of

### FASHION'S FANCIES.

Duck Costume

Jacket suits of duck, pique or grass linen are popular for outing wear in Midsummer, being cool in appearance if not in reality, and possessing the additional virtue of renewing their pristine freshness in the laundry. They are made in most severe fashion and without lining in skirt or waist.

Our illustration shows a costume of China-blue duck. The skirt is wide and flaring, the back being cut in several narrow gores. The four-inch hem is



headed by a bias band of white duck. The jacket is full in the back and the broad revers and ouffs are of the white duck, as is also the vest, which is closed with small round white pearl buttons. A white sailor hat of Milan straw is worn with this costume.



the present fashion of shirt-waists and odd waists of every style, as it is a most sensible and convenient one, and women should unanimously agree never to allow it to become obsolete. With a good black skirt and two or three waists of different styles, a shirt-waist for morning wear and one a little more dressy for afternoon and evening, one can always feel well and appropriately dressed, and at small expense.



.The figure shows a child's dimity gown for Midsummer, with low neck and without sleeves. The yoke is outlined with bands of embroidery and the low neck edged with a narrow lace. Full ruffles of embroidery form enaulets, and the skirt is finished with a four-inch hem. This little gown makes a dainty apron to wear with woolen gowns when

### Underskirts.

White underskirts will always be the favorites for Summer wear, and they are a necessity when the gown is thin muslin or any wash fabric. The newest are made with a very wide figunce reaching almost to the knee, which is in its turn trimmed with narrow ruffles of embroidery or edged with lace, to make the gown stand out.

Silk skirts are very popular, and most elaborate as well as simple ones are shown in the shops. One of rich satin brocade that could really "stand alone" was scalloped around the edge and trimmed with plaitings of pink satin and lace. A very dainty silk petticoat that could be sent to a careful laundress was one of undyed pongee, with a wide shirred ruffle edged with ecru linen lace.

But these are a luxury we cannot all afford, for besides being expensive they seldom wear well, and a good cotton skirt that can go into the tub is much However, a silk skirt for occasional wear will last some time; and if offic is the fortunate possessor of an old silk gown which has done duty until it is the last some time and if offic is the fortunate possessor of an old silk gown which has done duty until it is the last silk gown which has done duty until i to be preferred to a ragged silk one.

ping, turning and piecing.

Mohair—or alpaca as it always used to be called—makes serviceable underskirts for general wear, and is especially adapted to this purpose on account of its wiriness. It is shown this season in a great variety of designs and colors.

8.—6 dc over ch 2, 1 sc in center of the 3 dc, repeat from \* until there are five small scallops, 6 dc over last ch 2, 3 dc over 3 dc, ch 2, sk 2, 16 dc in next 16 st, ch 2, 4 dc over 4 dc, ch 2, 1 dc in 3d st of ch.

This finishes one scallop. The second is made the same, and fastened to the first by the 3d, 5th and 7th rows.—ELLEN A.

CLAUDE, Sherburn, Minn,

### A light-weight quality of moirene also makes a good skirt. Colored skirts of gingham are sensible, and can easily be

kept clean.

Without doubt the best petticoat for every-day wear with dark gowns, is one of plain black percale,—not calico, that has not body enough,—made as one would a white cotton, to be starched, washed and ironed at will. If you are a busy woman and cannot have a variety, in an underskirt like this you will find a friend indeed.

All Sorts. Table linen should always be daintily hemmed by hand.

Linen crash makes very serviceable aprons for kitchen wear, and is easily

Don't miss your train on account of an untied shoe-lacing. Dampen the knot, and it will stay tied all day. Oxford ties in the different shades of

tan are decidedly the favorite Summer shoe. With them should be worn tan stockings matching the shoes in shade. Colored rain umbrellas are gaining in popularity, as they relieve the gloom of

a rainy day. The prettiest are red, but more quiet ones are preferred by many. Tiny frills of yellow valenciennes lace are conspiciuous as a trimming. They are used profusely on the loose fronts and form a finish to the popular

box plait. A silver thimble now-a-days may be very elaborate affair. The newest are ornamented with a narrow rim of blue enamel, and studded here and there with tiny turquoises.

Dainty, cool-looking hats for Midsummer wear are pure-white Neapolitan or transparent straws, trimmed with a profusion of white chiffon or crepe and many pink roses.

Quite as much care should be given to fitting the stocking as the shoe. A stocking that is too short, or too large, is quite as uncomfortable and often does as much damage as a tight shoe.

Plain swiss and organdies have taken the place of the dotted swiss so popular last season. Organdies in the Dresden design are the favorites, and are trim-

med with dainty Dresden ribbons. Gloves may be preserved from per-spiring hands by washing the hands fre-quently with water in which powdered borax or soda has been dissolved, and sprinkling into the gloves pulverized fuller's earth before drawing on.

The latest arrangement for the hair is in the form of a bow-knot, set high on the top of the head, and stuck through with a tortoise-shell dagger.

The front is parted demurely and brought rather low of the forehead.

Many Midsummer gowns have sleeves consisting of an immense puff, reaching only to the elbow. Without doubt these sleeves are suitable for home gowns, but for out-of-door wear should be accompanied by mousquetaire or long buttoned gloves.

· Vaseline makes an excellent dressing for tan shoes. It should be well rubbed in with a flannel cloth. For black shoes add enough lamp-black to the vaseline to make a thick paste. This is best applied at night, as the shoe looks dull at first but after the oil has well dried,

This season's ginghams are more attractive than ever. Plaid ginghams are very stylish, and the colors are often. exquisitely blended. Many gingham gowns are combined with silk and made on a tight lining, with evidently no expectation of a visit to the laundry.

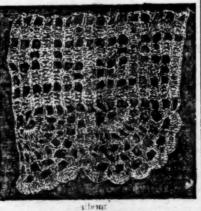
### STITCHES.

CROCHET EDGING

Chain 33. stitches, ch 2, sk 2, 4 dc in next 4 st, ch 2, sk 2, 1 dc in next st, ch 2, sk 2 dc in next st, ch 2, sk 2, 4 dc in next 4 st, ch 2, skip 2,

1 dc in next st.
2.—Ch 6, 1 de in last de in first row, ch 2, 4 de in next 4 dc, ch 2, sk 2, 4 dc in next 4 dc, ch 2, 4 dc in next 4 dc, de, ch 2, 1 de in st of ch; turn.

3.—Ch 5, 4 dc over 4 dc in last row, ch 2, 1 dc in next dc, ch 2, 1 dc over 3 dc, ch 2, 4 dc over next 4 dc, ch 2, 4 dc over next 4 dc, ch 2, 1 dc in ch 6, fastens in last st of foundation ch; turn. 4.—Ch 4, 1 de in first de, ch 2, 1 de in 3d de, ch 2, 1 de in 5th, ch 2, 1 de in 7th, ch 2, 1 de in 11th, ch 2, 1 de in 13th, ch 2, 4 de in next 4 de, ch 2, 1 de in next de, 15 de in next 15 st, ch 2, 1 de in 3d st of ch; turn.



3d, ch 2, 1 de in 6th, beh 2, 1 de in 9th, 3

ch 2, repeat from star to end of scallop; turn.
6.—Ch 4, 2 dc over th 1, ch 2, 2 dc over ch 1, so continue through the scallop, ch 2, 1 dc in first dc in last row, ch 2, 4 dc over next 4 dc, ch 2, 4 dc over next 4, ch 2, 4 dc

hopelessly decrepit, it may as an under-skirt well repay for time spent in rip-sk.—6 de over ch 2, repeat from \* through the scallop; turn. 8.—6 de over ch 2, 1 se in center of the 3

### WOMAN'S WISDOM.

Some Useful Hememade Articles Seen in a Poor Man's Kitchen.

"It is wonderful how very little one can get along with. I never should have believed that I could keep house with so few kitchen

utensils."
This was said by the little weman who was This was said by the little woman who was showing me her kitchen. She had been brought up in the East and accustomed to all the useful house-keeping appliances before coming to this Southwestern country. Now she was making the very best of the situation; 75 miles from a railroad, everything selling at an exerbitant price, and house-keeping luxuries out of the question. Her kitchen was only 12x14 feet, but had to serve as dining-room and kitchen too. Extreme simplicity and order reigned supreme. There was none of the cheap drapery makeshift so often seen in the kitchen, such as curtains over cupboards, etc., though the furniture, even to the dining-table, was mostly homemade, and the ever-useful packing-box was brought into requisition. brought into requisition.



It is of this same packing-box that I want to tell my house-keeping sisters who have to make the best of trying circumstances. A most useful kitchen table was made from it.

"I made the most of this useful article myself," said my friend. "Although Lnever attended a class in Sloyd, I can use a saw and jack-plane tolerably skillfully." I began to wonder what she did not do tolerably skill-

skill.

"I made all except the projecting pieces around top and bettom. But I planned the whole thing, including the set of shelves back of the table. The pattern is very simple, you see, for my 'carpenter' had only a hammer, saw, a jack-plane and a pocket-knife to work with."

I give a drawing in orbition of the table and I give a drawing in outline of the table and shelves as finished, with instructions sufficient

to enable any person with ingenuity to arrange one as convenient. The box is turned on the side with the open part to front, making the table 30 inches high, 24 inches wide, and 38 inches long. The box is divided into unpure and lower conventionals. and 38 inches long. The box is divided into upper and lewer compartments by means of boards placed on cleats nailed across the ends inside. A beveled strip was nailed on all around the top inside where the projecting piece joins the box. This gave greater firmness and kept dirt from collecting in the crack at the joining. Oil-cloth cut to fit in the top covered the box, the door was hung on small hinges and fastened with a little spring latch. These cost little and may be got at almost any general merchandise store in the country. "I smoothed all the edges and corners with a file and then sand-nanered in the country. "I smoothed all the edge and corners with a file and then sand-papered the entire thing and stained it with a mixture of water-proof paint, a very little lamp black, and made quite thin with oil and turpentine. and made quite thin with on and turpenture.

I removed all surplus paint with a woolen cleth." The result was a fine, dark-browned smooth surface, from which the dust readily brushed. In the upper compartment she kept all the pans—bread, pie, pudding, etc., also the smoothing-irons. In the lower compartment were the iron skillets, pots, frying-pans, and so on. A heavy piece of brown paper kept all soil from the bottom of the compartment were the iron skillets, pots, frying-pans, and so on. A heavy piece of brown paper kept all soil from the bottom of the compartment. The passage of the line of the compartment of the passage of the line of the compartment of the passage. The passage of the line of the line of the passage of the line of the passage of the line of the line of the passage of the line of the box. On the top was a soap box, a can hold-ing the kitchen spoons, knives and forks; an-other holding salt, and a small sugar box. On the lower shelf of the set, I noticed the cans were five-pound lard buckets with bails dewere five-pound lard buckets with bails detached, and large baking-powder cans. There was not a hint of their former use to be seen on them, except their shape. All were nicely labeled with letters of red and blue paint: "Dry Pruit," "Dry Beans," "Tea," "Coffee," and "Chocolate." On the second shelf were one-pound baking-powder cans all nicely labeled for spices, orange peel, sage, etc. On the upper shelf were glass jars and bottles, holding vinegar, soda, rice, oatmeal, cerealine, etc. In short, everything was arranged to cause the fewest-possible steps to the cook. In another article I will tell you of other homemade conveniences in this kitchen. I want to tell you of a convenience which I accidentally learned. It is that rabbits,

I want to tell you of a convenience which I accidentally learned. It is that rabbits, squirrels and such small game may be easily skinned without getting hairs on the flosh if the fur it thoroughly wet before beginning. Every boy likes to hunt during the Winter, and I think this simple precaution will remove much of the bug-bear of preparing the game to cook. As my little nephew said: "Why, Aunt Margaret, every boy's mother ought to know that."—MARGARET RUDISILLE, White Oaks, N. M.

### BUTTON-HOLES.

How to Make Them Outwear the Garments.

EDITOR FARMHOUSE: In most of the fancy work, and some of the most essential parts of sewing are left out. Quite often it is cessary to make a few button-holes. Now. learn how to make them, but I found by ex-perience that it was the most difficult part of ewing. The way I make them-and I learned with a tape-measure the distance I want them button-hole. After they are all marked I stitch them on the machine; have the stitching come each side of the thread on the buttonhole, about one-fourth inch between machine work. Work your button-hole in common button-hole stitch, putting the needle in next to the stitching, which serves as a guide for your stitches, and strengthens the button-hole

When you work across one side to the end (and be sure you begin at the back and work toward the edge of the garment), I work upper side of my work, as in the button-holes on men's nice clothes, work the other side the same as the first, and fasten by catching the thread through first stitch on the other side, pass the needle through and fasten on the my children's clothes in this way, and the are good when the garments are worn out. L. F. PROSSER.

In working button-holes in fine goods that will not hold the stitches, it is a good plan to baste a strip of firmer ma terial under the hem on which the buttonholes are to be worked, working through both, then trim away the extrastrip as close to the button-hole as pos-sible. It will be a very little ragged on the wrong side, to be sure, but that is better than to have a poor button-hole. They wa

### TALKING IT OVER.

### Hints and Opinions on Things in the Home and Out of It.

Our Girls, and How to Interest Them.

If we wish beautiful flowers we give them the best of care from the vesy first. So it is with the children; if we wish them to be beautiful—"handsome is as handsome dees,"—human plants, we must begin to train them in their childhood. First come the playthings which should be required to be put in their proper place when they are through playing.

I wonder how many methers believe in giving little prizes for neatness and the performance of any duty? Let us consider this point a moment. We will take the average child and say: "Now, Lottie, if you will put your playthings away for three days as soon as you are through playing, I will make you some candy." She is the neatest little thing for three days; but why? To get the candy, of course. She is not doing the work because she is taught to do it, but for a recompense, and when the incentive is removed she pense, and when the incentive is removed she no longer so exerts herself. It seems to me that prizes teach selfishness and helplessness. I do not believe in lectures; of course, they are good at times, but the mother should be her child's companion as much as possible, and by gentle, loving, and merry conversation and action show her how to do, and all the and action show her how to do, and all the time bringing out points of interest and beauty in the werk. No household is too poor to have cheer, love, and kindness or courtesy, three of the richest and rarest things in the world.

As the child grows she will want to "help mamma," so do not nin her willingness in the bud by telling her that she is "too much trouble," but let her work until tired. Of course, she is trouble, who aver saw anything

the bud by telling her that she is "too much trouble," but let her work until tired. Of course she is trouble, who ever saw anything good that wasn't some time or other; but then, you have the consolation of knowing that the seed sown will return a hundred-fold in years to come.

We can almost see the mother teaching the little daughter how to be a truly "little helper" in the following poem which I heard spoken not long ago:

spoken not long ago:

"I am mamma's little helper, She has only me, So I rise up in the morning Early as can be.

"I have learned to dress the baby, Wash him, comb his hair, Make him sweet as rosy-posy In his little chair.

I have learned to set the table.
Wash the dishes, too.
Oh! I wonder if you know
All that I can do?

"I can hem my mamma's aprou, Papa's socks I darn; I can knit a pair of mittens,— Mamma bought the yarn. "Don't you wish you had a helper Only nine years old? Yes, my procious; then I kissed her. 'Twas the truth I told.

As soon as she is old enough, take her into ne family confidence and let her suggest As soon as and is one enough, take her into the family confidence and let her suggest ways and means to assist in supporting the home. Her suggestions may not be of any benefit, but if all is explained to her she will benefit, but if all is explained to her she will be more contented, especially in hard times, when she sees how everything is managed. But while you are training her to work and manage a home be sure to give her the best education within your power. Also subscribe for two or three papers; more if you are able. I do not believe there are many homes that cannot afford three, or at least two good papers; for you are always finding two good papers, for you are always finding some new way in them to economize, and "a penny saved is a penny earned," you know. No farmer should do without THE AMERI-

No farmer should do without THE AMERI-CAN FARMER, which is but 50 cents, or nothing if you bundle up a half column of "Woman's Wisdom" and send to it. Then, there is The Ladies' Home Journal, which is a delight from little Lottie to papa himself, for \$1, which, with some good "weekly," furnishes variety at small cest. Above all things, if you wish your girl to be happy and contented, choose the right sort of literature. If possible have reading aloud in the evenings, that you may know other rule to judge the work by; it is good, and made by a good workman.'—H. S. BAKER, Tupelo, Miss.

### Maryland Homes.

EDITOR FARMHOUSE: In answer to Mrs. H. Tappan's letter in July number of THE AMERICAN FARMER, I will give what infor-

mation I pessess, governed by stern facts.

I have lived here all my married life (since 778), coming from a city on the Hudsen, New York State. I am positive that I could not have lived through many more such severe Winters. Though the past Winter here seemed fearful to me, a newcomer from the West laughed at the account given of it, saying the people here had no correct ideas of a

There is invariably a beginning of cold weather in November, so severe that ene thinks Winter has come, but it lasts only a mas Winter does set in, and lasts from three to six weeks. Sometimes for two weeks the ground does not thaw except in sunny expo-ures, but there is very little snow, often n sleighing and no ice for ice-houses; afterward a few cold days followed by some warm ones, the cold ones of course predominating at this season. In Summer the heat is never greater than in New York State; the Autumns are delightful, frost keeping off until October, thus making a long season.

Best adapted to corn, tobacco and truck.
The truck needs to be on the market early
to bring good prices. Chickens, by first week
in June. The people are like all others in the
world, some minding their own affairs, and
some "gossipy"; some intelligent, cultured,
refined; others caring but little for education,

etc.
We enjoy health to such a degree that I am
afraid to say more about it unless she think
I am not "governed strictly by facts."

I find by good management one can make a living, but don't hear of farmers getting rich anywhere, at present. All are in about the same circumstances, there being no strain-ing one to outdo another in fine clothing, rich furniture, nor stylish houses. So one can be satisfied with less expensive garments than in

But I would like to tell everyone who proposes to buy land anywhere, not to invest their all, but keep back a few hundred dollars to draw on if needed. Often some circumstances will call for ready cash. Now and then I have seen it needed and not forthcoming, causing no little embarrassment.

Twenty dollars per acre is about the average price of land, governed, of course, by its proximity to city here as elsewhere.

I have often wondered that those who go to the West and bleak Northwest do not prefer the milder elimeter of Northwest do. the milder climate of Maryland.—A. M. C.

# Ah, Sad are They. "Ah, sad are they who know not love," But, far from passion's tears and smiles, Drift down a moonless sea, beyond The silvery coasts of fairy isles.

And sadder they whose longing lips Kiss empty air and never touch The dear warm mouth of those they love-Wasting, wasting, suffering much.

But clear as amber, fine as musk, Is life to those who, pilgrim wise, Move hand in band from dawn to dusk, Each morning nearer Paradise.

### HOME TABLE.

DELICATE WHITE CAKE

Whites of seven eggs besten to a stiff froth; one even cup white super, one even cup flour, with a scant taspoon cream of tartar thoroughly since with it. This is a delicious cake, and will keep for three weeks.

### DELICIOUS CAKE.

One cup hog's brains beaten to s cream, one cup sugar, two cups flow, two teaspoons baking powder, pinch of salt, one half teaspoon allspice.—Mrs. MANETTA, Ore.

Two cups of granulated sugar, cup of sour cream, one-half cup of butter, one teaspoon of seda; flavor to teste; mix quite soft, and bake in a quick

A GOOD RECIPE FOR SUGAR COOKIES

DELICIOUS INDIAN BREAD. Two cups of sweet milk and one sour, three cups of meal and one flour, one-fourth cup of molanes, one teaspoon heaping full of soda and one

### of salt.-LETTIE F. PROSSER, Lycom-

ing, N. Y. CHILE SAUCE. To 12 large, ripe tomatoes take two onions, three green peppers; chop fine; add tablespoon of salt, one of sugar, one

### cup of vinegar; boil well. GREEN TOMATO PICKLES.

Take as many green tomatoes as you want to use for the purpose, and slice them, sprinkling a little salt between the layers; let them stand all night; in the morning take them out and drain well. then pour over them enough boiling water to cover; let stand for half an hour, then drain very thoroughly; put in your kettle enough good vinegar to cover the tomatoes, add two cups brown sugar, large half cup of whole cloves and cinnamon, mix, let them simmer a while, then put in your tomatoes and keep very hot on top of the stove for half an hour, but not boil.—Mrs. DANIEL HENDERSON, Fisher, Minn.

### THREE SALADS.

Egg Salad .- Boil six eggs for 15 minutes, then throw them into cold water, and allow them to remain there until cold. Remove the shells, and cut each egg into four pieces. Place crisp lettuce leaves on a large platter, lay a piece of egg on each leaf, sprinkle lightly with salt, and pour mayonnaise over all,

Tomato and Lettuce Salad .- Do not remove the skin from your tomatoes by scalding, but by carefully peeling them. Then cut into halves. Arrange on a cold dish the crispest lettuce leaves, lay half a tomato on each, and scatter finely crushed ice over all. Fill a pretty glass bowl with mayonnaise, and, in serving the salad, pour a ladleful of dressing over each piece of tomato.

Cucumber Salad .- Peel and slice the oucumbers and lay them in iced water for an hour. Drain dry, slice a small onion, and mix with the cucumbers. Lay all in a very cold dish and pour over them a dressing made of three tablespoonfuls of vin gar, two of saladoil, a teaspoonful of sugar, and a little pepper and salt. Eat at once.-MARION

### MAYONNAISE DRESSING.

To make mayonnaise dressing, place the yolks of two eggs in a shallow dish with half a teaspoon of ground English mustard, a saluspoon of salt and half a saltspoon of red pepper; mix well and stir briskly for a few moments; have ready one and one-half cups of the best olive-oil and pour into the mixture a drop at a time, stirring steadily. When it thickens you can turn more oil in at one time, as it becomes too thick to stir; add, part at a time, two tablespoons of vinegar or lemon juice until you have used all the oil, stirring until thick and

### A Chance for Thrifty Housekeepers.

### \$23.50 Worth of Domes- \$10.

We have taken advantage of an opportunity to great nacrifice in cost.

The readers of THE AMERICAN FARMER are given the opportunity to save some money for themselve, along list of no less than 154 separate articles are usually sole, for the trifling cost of only \$10. All these articles are good. There is no trash in the black fair average retail prices, if bought sinely, his acrument of goods would cost about \$33.50, although in the far West the price would be considerably most than this sum. It will be seen, therefore, that the cost of this assortment to our readers is far below the whole ale prices even.

Read the list of things we will send for \$10: I ten-pound caddy of good ten, in the original package, scaled up, air-tight.

I all-linen white table-cloth, two and one-half yards long, fringed, with fancy-colored border.

6 white linen table napkins, fringed, with celored edges to match the tablecloth.

6 fine ebony-handled table knives.

6 chony-handled forks to match.

12 beautiful sliver-plated tablespoons, latest designal sliver-plated fruit knives.

6 sliver-plated fruit knives.

7 bars of So-Clean laundry soap.

6 cakes Cream Complexion tollet soap.

8 cakes Hack Prince tar soap.

12 cakes Buck Prince tar soap.

12 cakes Buck Prince tar soap.

13 cakes Black Prince tar soap.

14 cakes pure Castile soap.

15 cakes Day the first that the state of the purchaser. The ten-pound caddy mentioned above may be either English Breakfast, Oo.ong, mirel, Green Japah, Black Japan, Gunpowth, Imperial, road station in the United States upon receipt of the road station in the United States upon receipt of the road station in the United States upon receipt of the road station in the United States upon receipt of the road station in the United States upon receipt of the road station in the United States upon receipt of the road state of the soap enough to last an ordin

BARGAINS IN LACE CURTAINS.

We have made arrangements to furnish our reades with some handsome Nottingham Lace Oursing of various patterns. They are all of the very littless tylk three and one-half yards long, and 34 inches wide. We offer the three following grades. All curtainage said by the nate. We offer the three following grades.

No. 300 will be sent by express (the receiver paying a september of the sent by express (the receiver paying No. 300 will be sent by express (the receiver paying axpress charges), upon receipt of \$2.35 per paying Appendix of the sent paying a sent paying the express charges), upon sent paying the sent p

THE AMERICAN FARMER,



been grievously wronged. bar had been friends and comrades from childhood. In the early

from Massachusetts, to what was then called the "Far West," and settling on neighboring farms enjoyed the pleasant social intercourse which was somewhat restricted by distance from other neighbors in the then sparsely settled country. Living only half a mile apart, the boys had attended the same school, sat together there, played the same beyish games, until, when they had grown to young manhood, they had spent many a day with their rifles in that most fascinating of all pursuits to the pioneer settler, the chase after wild game of various kinds; so that both had become quite expert in the use of the rifle. They roamed the forests fearlessly, and many a Winter's evening, as they clustered around the great crackling fires of beech and hickory wood, eating nuts and apples, was enlivened with stories of hairbreadth escapes from the clutches of a panther time the dense woods were infested.

But often as the parents would recount the hardships and changes through ing and bringing to a high state of cultivation their beautiful farms, there advantages would be so much better for their sons. Tom and Joe were both good students, and had shown a marked ability in mastering the subjects they the problem come up for solution in each tamily, how, with limited means, and Michigan would rejoice." needing his help on the farm, could the son be spared to be sent away to college, and as often had it remained unsolved. One levely afternoon in September,

that he has the privilege of recommendmost likely lads in these parts, and that the last two Winters they had gone to the "green-eyed monster," his school they were so evenly matched that he thought that about the best way to decide between them would be by shooting at a mark, as a soldier ought to be a good shot, of course." Mr. Allen, expressing his surprise,

quietly said: "That would be a close contest, for they are both good marksmen"; thinking at the same time that the news might not be quite correct: nevertheless, after a little longer talk on the subject and a few final words concerning the weather and the crops, after say ing "good-by" to his friendly neighbor, he hastened into the house to talk over the news with his wife.

"It would seem too good to be true," said Mrs. Allen, "if such a chance should fall to Tom; yet, if Joe should be the fortunate one, why, we might, I think, unselfishly rejoice with the Dun-

Tom and his sister Lucy were greatly excited when the story was told to them, but they decided to keep quiet about it till they knew certainly that it was true. They could not help, however, discussing the possibilities and probabilities in regard to it, and it was not till long after midnight that Tom was able to close his eyes in sleep. The next day he could hardly wait till time for the mail, but set off an hour too soon for the postoffice, where he impatiently paced back and forth before the door and several times decided that the mail must be late, though repeatedly assured to the contrary by the good-natured Postmaster.

In due time it came, and there, sure enough, was a letter for Tom and also one for his friend Joe, both postmarked Tom nervously tore his open and found a kind note confirming the two boys should present themselves at the school grounds of the C- High School, and there would be decided by their cleverness in the use of the rifle the momentous question as to which of the two "best boys" in school should have the appointment for examination for the West Point cadetship. Tom ground, and after reading it he was no sore trial. less eager and excited than Tom.

"SAID TOM, "PLL For the next few days there was little never speak to him again; else thought of or talked about by those he is too contemptible to two families than the coming contest. be even thought about." Tom and Joe were constantly practicing Such were the bitter with their guns, and the more they pracwords of one who had ticed the more anxious each became to win the coveted honor. The interest Tom Allen and Joe Dun- had extended all through the neighborhood, so that on the day appointed there was quite a crowd ready to attend them. days of the settlement of Michigan their on their way to C, and many a wise fathers had removed with their families conjecture was indulged in as to which of the two would be the winner. Some who had never been known to distinguish themselves by fine scholarship at school, nor yet in games upon the playground, thought it would be rare fun to see the shooting match, but openly declared that they would not go to West Point or any sort of college if they could, thus

> seldom attained anywhere. The morning had been cloudy and threatening rain, but at noon, when all were assembled on the playground, the sun broke through a rift in the clouds and came smilingly down upon them. Prof. Thomas warmly greeted his old pupils, expressing most heartily the pleasure it gave him to be allowed to choose from among his pupils in conferring such an honor, and said:

proving that excellence without effort is

Boys, less than a hundred vears have passed since this broad, free land or other wild beast with which at that of ours, stretching from the Great Lakes to the Gulf, and from ocean to ocean, was one unbroken plain, forest, and mountain slope, inhabited only by the which they had passed in clearing, feuc- red man, and proud as I am of our country and its institutions, I believe we owe it all under God's blessing to the would sometimes creep into the conver- dexterity with which our forefathers used sation a tinge of regret that they were not again in the East, where educational tinguish himself in the use of firearms must have courage, pluck and endurance, qualities which, resting on a foundation of good Christian principles, cannot fail to make him a fine soldier; and if one had thus far pursued, and, stimulated by of these young men standing here to-day their parents, were quite ambitious for a could so build on that foundation as to eminence in our country, I am sure all It was thought necessary to have some

preliminary shooting in order to steady

the nerves, in which several persons took part, and it was noticed how evenly Mr. Allen stood at his gate looking the young men were matched. At last out over his farm, his view taking in the all was ready and the final contest belong stretch of cornfields whose long gan. The best three out of five was the blades gently stirred by the breeze were order. Joe took his place and fired glistening in the sunshine, and farther with such an unerring aim that a on the young orchards laden with rosy murmur of applause greeted the final apples, which seemed blushing at their shot, and the words "He will do well own beauty and abundance, a neigh- if he can beat that" were heard on all pitied him. bor passing by on his return from the sides. But none knew so well as Joe \_\_\_\_\_, 10 miles away, seeing Tom's ability, and it was with a feeling a neighbor's, some five miles distant, of dread that he took his place some "Have you heard that our Member little distance apart, but where he could of Congress from this District has noti- distinctly see the result of each shot. fied Prof. Thomas, of Storrs High School, He watched breathlessly, and soon he saw that two of Tom's shots had gone ing for examination a cadet for West so near the mark that it only needed Point? I heard say, too, that your son one more as good to give him the and neighbor Dunbar's were two of the victory. Then for the first time in all those years of comradeship did Satan and jealousy, enter into his heart. "He shall not win if I can prevent it," he thought, and suddenly taking out of his pocket a small mirror he flashed the sunlight full in Tom's eyes just as with finger on the trigger Tom pulled for his final shot. But the blinding light caused him to miss his aim, and the shot fell wide of the mark.

All eyes being on the target, none saw what had happened except Tom's sister Lucy, who had a secret admiration for Joe, and whose gaze for the moment was turned upon him instead of her brother. Lucy stood dumb with astonishment while cheer after cheer rent the air for Joe Dunbar, and she saw in a dazed sort of way her brother among the first to go and give him hearty congratulations.



TOM PULLED FOR HIS FINAL SHOT.

Her heart was filled with an indescribable feeling of sadness, not that Tom was not the victor, but the feeling news of the day before from his old of lost confidence in one whose integrity teacher. It was also arranged that on she had never before doubted was so a certain day the next week the painful to her, that her only thought was to get away from the crowd and try to comprehend what had happened In all her young life no experience had come to so shake her faith in human nature. The thought, too, that someone besides herself might have seen Joe's movement with the mirror, and would

However, nothing of the sort was ferocious beast, with fiery eyes, distended

conceal the emotions of indignation and upon him. sorrow rankling in her young heart.

even thought about." "I know," he said, "how terribly bright the sunshine seemed just at that last shot, but I thought a cloud had suddenly passed, making the sunlight all the brighter. How unspeakably mean of

"I am very sorry," said his father, "and I would not have thought it of " Never mind, Tom," said his mother;

"I would rather have a son with good and noble principles at home, than have one at West Point without them." A long talk ensued, during which it was decided that nothing further should

be said upon the subject, and that the best and most dignified way for them to do would be to behave as if nothing had happened.

The way of the transgressor is hard," said Mr. Allen. "No one would want Joe's accusing conscience to-night. To have obtained a prize, however valuable, by fraud would surely take away all joy in the possession of it, and I hope, my



IT PELL DEAD AT HIS FEET.

son, that you will never be tempted from the path of rectitude, no matter how great the reward may seem to be. higher education. Again and again did reach in the years to come a place of I would rather have you go through life with limited education and small means, yet with the highest Christian principles, than have you attain to the Presidency of this great Nation with a scarred conscience or dishonored soul."

But little was seen of the Dunbars for few days, and Joe would always appear to be in a hurry or going some place. Tom felt sure that all this restless activity was the result of an uneasy conscience, and though hurt and disappointed at the want of manly integrity in his friend, yet at times he almost

One morning Tom had an errand at and as his pony had injured a foot in some way, he concluded to walk. In order to shorten the distance he took a path leading into the forest, where the tall oak and ash, the beech and stately pine grew thickly together, making a dense shade very grateful to the pedestrain on this warm September morning. The birds twittered and sang among

the leafy branches of the trees, and their songs, together with the murmuning of a little stream which gurgled and plashed along in its rocky bed near by the path along which Tom's route lay, made a sort of reposeful music to the soul of one alive to Nature's changing moods. Following the stream it became deeper, and here and there through its limpid waters could be seen the silvery trout darting up to the surface for a moment, then gliding so quickly away. As he went on a troubled memory of the happy past momentarily came to him of the days when he and Joe, the best of friends, had hunted together in these wilds woods and fished in these same waters; yes, the happy past, now irrevocably gone, and the old friend, not gene, but oh! so changed.

He determined, however, to banish all sad thoughts from his mind on such a lovely morning, and, so, quickening his pace a little, while the soft air fanned his cheeks and the music of the birds seemed still sweeter, as came the thoughts, "The Lord God ominpotent reigneth; let all the earth rejoice. He will withhold no good thing from those who put their trust in Him," and he was glad once more as Nature's sights and sounds took on a newer and a higher meaning, and he "read books in the running brooks, sermons in stones, and good in everything." But, suddenly looking forward, he saw round a bend in the stream someone standing at the end of a large log which extended out some distance into the water, very busily fishing. Lifting his eyes to the tree whose long, graceful branches overhung the stream and the log on which the person was standing, he saw what, for the moment, transfixed him with horror; for there, only partly concealed by the leaves, was a huge panther creep-ing slowly and stealthily toward the spot where, as a nearer approach re-vealed the fact, stood his old friend and comrade, all unconscious of danger. Quick as thought he sped to seize the gun which Joe had left standing against the trunk of the tree, and cocking it aimed it directly at the heart of the soon accuse him of it, was scarcely less animal. The click of the gun aroused carried Joe's letter to him as fast as his favorite pony could skim over the publicly disgraced would have been a discovered just behind and not many feet above, on the limb nearest him, the

mentioned, and when, after a little de- jaws and glistening teeth, with claws unlay, all were merrily chatting on their sheathed and its tail, waving from side way homeward, Lucy bravely tried to to side, crouched and ready to spring

Joe realized in that dreadful instant Her quiet, say-nothing demeanor was at- his utter helplessness and peril and gave tributed by all to her disappointment on her brother's account. But when, in the seclusion of the family circle that even-like the wail of a lest soul. At the ing, Lucy disclosed her secret, Tom's indignation knew no bounds, and he exclaimed in the words with which our of the panther and it fell dead at his feet. story opens: "No, I'll never speak to Imagine his emotions when, the danger him again; he is too contemptible to be past, and recovering himself a little, he recognized in the person of his rescuer his injured friend, who, a few yards away, was standing, gun in hand, quietly awalting him. The blood now mounted to his before colorless face, and rushing to his brave deliverer, the tears streaming from his eyes, he threw himself at his feet and cried out brokenly amidst his sobs:

"Oh! forgive me Tom; I have so wickedly wronged you. You have saved my life. I do not deserve to live; you should have shot me instead of the beast "

Tom, gently lifting him up, said: "Come, Joe, let us sit here on this log and talk it all over."

After his emotion had somewhat subsided, he fully confessed his fault, owning how miserable he had felt ever since; how he had almost hated himself for it, and yet had not the courage to

undo the wrong.
"Now," said he, "that I have confessed all to you, Tom, I feel that I can ask God's forgiveness, and I shall pray, as never before in my life, 'Lead us not into temptation.' I will go at once to Prof. Thomas, explain all, and begging his pardon for my deception, ask him to send in your name instead of mine.

The last vestige of unkindly feeling was taken from Tom's heart as he listened to Joe's evidently painful and humiliating confession. He freely for-gave him, and the two friends shook ands and parted. Joe was as good as his word, and did not stop until he had seen his teacher, acknowledged his fault, and given Tom the place he knew he deserved. Tom graduated at West Point, and in the years which followed took rank with the illustrious men of our Nation.

Joe Dunbar, profiting by his painful experience, became a thoroughly honest young man, and putting forth redoubled efforts to obtain a higher education, finally succeeded, and was never known during the course of a long and useful life to be other than a strictly upright, conscientious and honotable man.



[For the leisure hour of readers, old and young. All are invited to contribute original puzzles and send solutions to those published. Anawers and names of solvers to this issue will appear in two months. An asterisk (\*) after a definition signifies that the word is obsolete. Address letters for this department: "Puzzle Editor," American Farmer, 1729 New York Ave., Washington, D. C.]



113—My dreamland visit to Beulah Land. \*T-rail allowed. Authors of word-forms: Tunste, Dan D.

### - ENIGMANIACS.

Complete Lists: None. Complete Lists: None.
Incompletes: Malenco, Ben Trovato, G.
Race, Alumnus, Folga, Pearlie Glen, E.
Lucy Date, Primrose, Harry, Serpeggiando, A. N. Drew, Jo Urnal, Pearl, T.
O'Boggan, Lillian Locke, Nyas, Christo,
St. Julian, Arty Fishel, 2 E. Z., F. L. Smithe,
Carido Beach, Nath Not. Guidon, Beech Nut, N. E. Body, Carl, Haidee, Anne Koe, Presto, Calo, Phil, Pansy, Ingleside, Rodger, Fancy, Zoroaster, Cinders, Nedmac, Holly, Dan Knight, Locust, Cosette, Cecil, Caro, L. M. N., A. L. Vin, We Two, Lucile, N. E. Moore, K. T. Did, Ellsworth, Damon. Total, 52.

Prize Winners. 1. T. O'Boggan; 2. E. Lucy Date; 3. G. Race; 4. Ingleside.

### ENIGMANIA-NO. 16.

NO. 122-TRANSPOSITION. If I were a poet I might write
Her wonderful bearty in rhyme,
But my pen is second to write right,
And do it in metrical time.

If I could her womanly grace place On canvas as now it appears, The contour of that delicate face trace— But that would take several years!

Her eyes have a myssical bright light. Had she lived in medieval days, I'm sure there would many a knight fight To bask in their radiant gaze.

I'll never a maiden more neat meet; Complexion? Why, sir, it's sublime! To kiss her were surely a sweet treat— If she was not given to PRIME! -L'Allmond, Pittsburg, Pa.

NO. 123-SQUARE.

1. Town of Brail, in Para. (Wore.)
2. Of an aroma. (Dungl.) 3. To confirm.
4. To admonish. 5. A mark engraved or stamped. (Encyc. Dict.) 6. Tasting. 7. Town of Bavaria, on the Regen. (Wore.)
8. Town of Hindostan, in the Candeish. (Wore.)

—T. HINKER, Bangor, Pa.

NO. 124-NUMERICAL Tho' some may little strength derive From a mere trifle, 1 to 5, It serves to keep their forms alive.

A maiden who is 6 to 2. Is proud of her bright eyes of blue, And of that hair of golden hue. Her hands she often 6 to 10s With something grown in shady glens, From 5 to 1 the skin to cleanse.

An Old World warbler, which can claim The TOTAL for its common name, Is known to every British dame. -MAUDE St. Joseph, Mo.

NO. 125-HALF-SQUARE. 1. A letter. 2. A Latin prefix. 3. Twitching. 4. A thicket. 5. A town of Spain. 6. Joyful music, as of song. 7. The Balkan Range. (Schmidt.) 8. Lads. (Stand.) 9. French hautboist and composer; b. 1754. 10. A three-masted vessel. 11. Dutch Grammarian; 16th Century. 12. Stops. 13. -PALLAS, Pawtucket, R. L.

NO. 126-TRANSPOSITION. Slowly, Lowly, Sinks the sun. Day is done, Night's begun, And the sentinels on high Take their places in the sky. O'er bogs

Dank fogs Are rising slow, And to and fro Their strange forms blow, Like ghostly demons at the night Defying FIRST the passing light. The moon

Glow white and clear; Fall on the ear Night's LAST weird voices holding sway Till silenced by the light of day.

—Dan Knight, Philadelphia, Pa. NO. 127-DIAMOND.

1. A letter. 2. To turn public matters to private advantage. 3. Ravages. 4. Disowns. 5. A man without property or influence. 6. An American plant of the lily family with yellowish flowers. (Stand.) 7. Benthamism. (Stand.) 8. Marine univalve mollusks of the genus strombus and allied genera. 9. Plants of the genus Zizyphus.

10. A certain measure of weight. 11. A letter.

—J. E. W., Boston, Mass.

NO. 128-TRANSPOSITION. A rose spread wide its petals sweet, Became a flower at sight, That made of earth an Eden fair, A bloom of beauty bright.

A little child, with hand upraised, Grasped at the fragrant flower, Then, with a cry of anguished pain, Dropped it within the bower.

But the aching sting was left behind, The pain for pleasure given, The little heart unused to ill With grief was sorely riven.

Do we grasp at pleasure? How oft the thorn Of disappointment stings, And what we thought was perfect bliss

Contentment, patience, faith, and trust, Sweet TOTAL e'er for pleasure, Give us alone the rule quite ONE For joy in fullest measure.

—FRANTZ, Binghamton, N. Y.

NO. 129-DIAMOND.

1. A letter. 2. Dispensation. 3. Tributes. Forms into roundness.\* (Encyc. Dict.) An instrument for intensifying sounds produced by percussion of the thorax. 6. The part of the scapula above the spine. 7. An oxychlorid of copper, usually in emerald-green prismatic crystala. 8. Regions lying between certain parallels of latitude. 9. Annular re-enforces, to strengthen places where holes are made. 10. A city of Asia. 11. A letter.-REX FORD, Alplaus, N. Y.

NO. 130-DECAPITATION. (To Guidon.)

The river road winds to and fro, Like a lost man without a guide, Along the bluffs, now high, now low; The river, like a radiant bride

Who seeks 'mid winding paths to hide, In rippling beauty close beside The river road.

The river road 'neath Winter's snow Is full of life; King Frost's defied Where swift the bobs and cutters go, And o'er the ice the skaters glide. When Summer comes in all her pride She maketh here her chief abode, And seems more glad since she espied The river road.

The river road in Spring can show A spot to Nature near allied; So thick the PRIMAL flowers grow Their blooms are crushed at every stride!
And witching Autumn, azure-eyed, Has TOTAL of her best bestowed, And with her leafy rainbow dyed The river road

Prince, you must own when it you ride
It well deserves a better ode; You'll ne'er for lack of beauty chide The river road. -SWAMP ANGEL, Rock Falls, Ill.

### PRIZES.

Best half-square, pyramid, inverted pyra-nid, and rhomboid, Thedom six months each; best anagram, charade, and transposition, this paper one year each. Open to all until Aug.

### ENIGMIANA. Some of the June puzzles were too tough

for the solvers, not one securing a complete list of answers.—No. 122 is a clever transposition and a clever piece of verse. More of its author's work would be very acceptable. -Pullas and T. Hinker are with us again. after quite a long absence. The latter's square, though pretty well tagged, is well put together.—Since our last issue appeared Nancy Lee, of Detroit, who was a regular The Enigma," ended his life by taking rough on rats, the sad event taking place on the 10th ult. Our sincere sympathy s extended to his bereaved ones. - Judson has an International Dictionary and a few other reference books to dispose of. His ad dress is: Chas. H. Judkins, 86 Washington street, Norfolk, Va. - Frantz has thanks for contributions—one of which is used immediately, and a "complete" to July puzzles.
8-1-'95.

R. O. CHESTER.

### Light Railways.

The agricultural portions of France, Belgium, Holland, Germany, Austria, Hungary, North Italy, and Ireland have derived during the last few years no small benefit from the extensive construction of light railways. These steam tramways, for they are little more, are lesigned to carry goods and passengers between districts previously isolated and stations on the ordinary railroads. They run, as a rule, on or by the sides of the highroads, and are built and worked in all respects at the cheapest possible rate The appreconsistent with efficiency. ciation with which the system has been received, and the rapidity with which it has been developed in Continental countries, testifies to its value.

### A WORLD'S FAVORITE

Fashions May Come and Go. But This Has Come to Stav.

This season has brought many fashions. But hundreds of the styles which have come will as quickly go and be heard of no more. One, however, is sure to remain.

It was caught up by the fashiomable world as a desirable ornament; it was indorsed for its usefulness by the middle classes, and accepted by the masses as a necessity of life. It was a success—a success because it rested upon common sense. This universal fashion is the full-length overgarment. The Summer Girl travels immaculate from soot and dust beneath its dainty linen covering; the Mounting and valubeneath its dainty linen covering; the Mountain Maid, under its cloth draperies, shrugs her pretty shoulders at the Autumn blizzards; when lined with warm fur it protects the Sleigh Belle against the Winter's cold; if made of checked water-proofing, it attract-ively shelters the Easter Lily from April



At all seasons it is becoming, and adds to the attractive outwardness of feminine numanity. It is, however, not only in at tractive outwardness that common sense but in the true inwardness of life as well.

as well.

Here is a case in point:

Some years ago the head of the most successful health institute in America, the Invalids' Hotel and Surgical Institute, at Buffalo, N. Y., set out to make a much needed descovery which should be founded on comise and appeal to the common sense of

common humanity. This man, R. V. Pierce, M. D., author of the People's Common Sense Medical Adviser, of which more copies have been sold than of any other book published in this country, had from his long experience as a scientific investigator, physician and student of human nature, become convinced that the American people lacked nervous stamina. The very energy which enabled them to conquer a new land and develop it to the feremost rank among the powers of the world, was, he said, proving a task master which was driving men and women to physical pros-tration. Whether this prostration found its seat in the nervous system, brain, heart, lungs, stomach, kidneys, liver or blood—and whether it was called neuralgia, dyspepsia, female weakness, "brain fag," insomnia, heart disease, or nervous prostration, Dr. Pierce reasoned, and very properly, that the cause was high the properly of the property of the propert due to our high pressure manner of living. He found, furthermore, that these disorders could not be reached by the remedies of other nations or other times, but that these peculiar and hitherto unknown conditions called for a peculiar and hitherto unknown system of treatment. People who burned the candle at both ends did not need a stimulant, but a new means of strength, which could only be gained by creating new tissues, new blood and new nerve force. After long experiments, covering many thousand cases, he gave to the profession and the public Dr. Pierce's Golden Pierce's Favorite Prescription. These differ from all other medicines, compounds, emulsions, tonics and sarsaparillas as bread differs from straw.

The combined use of these medicinal compounds supplies a most efficient and scientific course of remedial treatment that has proven marvelously successful in curative results in a great diversity of obstinate chronic diseases. The aim of this common sense physician and the object of his common sense remedies. was not to give patients a course of "tempo rary physical patchwork," but to go to the root of disease and effect permanent cures. The re sult is that in every city, town and county of the Union, merchants, farmers, mechanics and laborers, their

WIVES, MOTHERS, AND DAUGHTERS,

have taken his medicines into their homes and that they are there as household gods. His "Favorite Prescription" is increasing the outward attractiveness and the true inwardness of the "Summer Girl," the "Sleigh Belle," the "Easter Lily," the "Mountain Maid," the House Wife and Home worker, because it supplies the needed nerve and brain food, through enriched and vitalized blood, and thereby gives the true elements of new health strength and life. Dr. Pierce' Favorite Prescription is of purely vegetable composition and is perfectly harmless in any ndition of the system. It exerts a wond ful soothing, healing and strengthening power over woman's delicate organism. It is an invigorating tonic for the whole system, and is almost an infallible specific for the peculiar weaknesses, irregularities, and painful derangements of woman.

### DOCTORS' MISTAKES.

Careless, easy-going doctors frequently treat Careless, easy-going doctors frequently treat their women patients for biliousness, nervous-ness, dyspepsia, liver or kidney troubles, when the real sickness is in the organs dis-tinctly feminine, and no help can come till they are made perfectly strong and healthy in both structure and function, which is brought about in due time by the use of Dr. Pierce's Favorite Prescription. His "Golden Medi cal Discovery" is converting weak and weary, helpless and hopeless men, women and children into strong, vigorous, happy beings. The latter medicine is the great blood purifier, nerve food, and flesh builder, incontinuous and hailding and flesh builder, imparting nerve force and building up-no fat, but solid, firm flesh, when reduced below a healthy standard by "wasting disbelow a healthy standard by wasting dis-eases." It does not make too corpulent people more fat, but builds up the solid, muscular flesh to the healthy, or normal, standard— thereby rounding out the form and figure and oing out premature wrinkles.

"Golden Medical Discovery" is an inrubbing The

vigorating tonic and cures indigestion or dys-pepsia, "liver complaint" or biliousness," pepsia, "liver compliant" or bindustiess, and for lingering coughs and all long-standing bronchial affections it is simply unequaled.

Serious illness often has its beginning in

neglected little things. Even dread con-sumption comes on by degrees, and may begin with a very slight derangement.

Taken in time, 98 per cent. of all cases of consumption can be cured. Taken in time, no disease need be really serious. The best safeguard against disease is an active, healthy liver. That means

GOOD, SOLID, HEALTHY FLESH. The germs of disease seek out the weak spots in the body. Don't have any weak no roof, and the silage, covered with spots. If you have them now, clear them out, tone them up, make them strong. Dr. Pierce's Golden Medical Discovery will do it. was well preserved.

It searches out all poisonous matter and dis-esse-germs of whatever character. It regu-lates the action of the organs of the whole body. It forces out impure matter, makes the blood rich and puts new life into every fiber.

When Dr. Pierce published the first edition of his work, The People's Common Sense Medical Adviser, he announced that after 680,000 copies had been sold at the regular price, \$1.50 per copy, the profit on which would repay him for his great amount of labor and money expended in producing it, he would distribute the next half million free. As this number of copies has already been sold, he is now distributing, absolutely free, 500,000 copies of this most complete, interesting and valu-A GREAT BOOK FREE.

sense medical work ever publishedrequired to only being required to mail to him, or the World's Dispensary Medical Association, of Buffalo, N. Y., of which he is president, this little coupon NUMBER with twenty-one (21) cents in one-cent stamps to pay for postage and packing only, and the book will be sent by mail. It is a veritable medical library, complete in one volume. It contains over 1,000 pages and more than 300 illustrations. Several finely illustrated chapters are devoted to the careful consideration, ters are devoted to the careful consideration, in plain language, of diseases peculiar to women and their successful home treatment without the aid of a physician and without having to submit to dreaded "examinations" and the stereotyped "local applications," so repulsive to the modest and justly sensitive woman. The Free Edition is precisely the same as those sold at \$1.50 except only that the books are bound in strong manilla paper covers instead of cloth. Send Now before all are given away. They are going off rapidly, therefore, do not delay sending immediately if in want of one.

### FARMING IN MARYLAND.

It has Its Advantages and Disadvantages, with a Strong Balance to Its Credit.

EDITOR AMERICAN FARMER: I see in the July number of THE AMERICAN FARMER a letter from Mrs. Tappan, of Nebraska, asking about farming and farm lands in Maryland, and although I am in the midst of harvest, I feel it

my duty to answer her inquiry briefly. I agree with Mrs. Tappan that there is no poetry to the credit of farming at present. Indeed, the only thing on the eredit side of this vocation is the independence, the fresh air and green fields and the absence of brick walks and steaming pavements; still, the condition of the farmer is the same in

Nebraska as in Maryland. However, I know that some farmers make farming pay here in Montgomery County. We are 18 miles north of Washington and 28 miles west of Baltimore. The nearest railroad is on an average of eight miles. We have good stone roads to market and mills, stores and Postoffices every two miles, with mails twice a day; churches of all faiths, a savings bank and a fire insurance company, farmers' clubs, ladies' associations, and granges. So you see all of our surroundings are conducive to

pleasant social relations. Now, to return to the farming in this locality. Many make dairying a specialty. They of course raise some wheat and corn and hay also. They get 50 cents per gallon for cream delivered within two miles of the farm, providing it will churn two pounds of butter to the gallon; the price of whole milk delivered at same place is 14 cents per gallon during the six Winter months, and 12 cents per gallon the Summer months. There is some money made at this with careful attention, and combining the raising of pork, poultry,

etc. The best returns for hard work, patience and good management is from small-fruit raising and trucking. Strawberries have paid those who have gone into it intelligently very well indeed. I know of one man near me who made last year \$300 per acre, and hauled his berries 18 miles to Washington. This year berries brought seven cents in the neighborhood, and from seven cents to 12 cents in Washington, according to

quality. Asparagus is another paying crop; a party here cut \$250 per acre last year, and this year sold his crop at from 75

cents to \$1.50 per dozen bunches. There is always a good market in Washington for poultry and eggs, if in good condition.

Now, I want to say to Mrs. Tappan that not one person in 10 makes a success at small-fruit raising, truck-farming and poultry, because there is too much close attention and hard work connected with it. It can be made to pay well by a person who is fitted for these branches of farming.

Our climate is good, very cold weather does not last long and our extreme hot spells are few and far between. February and March are the least pleasant months of the year, as they are apt to be cold and wet. Our elevation above the sea is about 500 feet, and there is no malaria. Our lands are not often in the market, but when they are they bring from \$30 to \$60 per acre. Our tax rate is about \$1 on the \$100.

If Mrs. Tappan may wish any further information I will be happy to give it, although I am no real estate dealer, nor have I any land to sell .- H. H. MILLER, Sandy Spring, Md.

### An Underground Silo.

The report of the Colorado Station says: A silo with a capacity of 64 tons was built on the Station farm, at a cost of 43 cents per ton of capacity, or 65 cents per ton including the cost of partitions for four compartments. On a spot which remained dry the whole year a hole 21 feet square and eight feet deep was dug, chiefly with scraper and team. The studs were of two by six-inch lumber, resting on a two by six-inch sill, and held at the top by a plate of the same size. A single layer of unmatched rough boards, lined with tarred paper, held in place by perpendicular slats, constituted the sheathing. The dirt waa-filled in against the sides. The sile hadd



We Can't Tell.

Get Up and Scratch.

Said one little chick, with a funny little squirm, "I wish I could find a nice, fat worm."

Said another little chicken, with a queer little

Said a third little chick, with a strange little

"I wish I could find some nice, yellow meal."

A Model Child.

Her temper's always sunny, her hair is ever

neat; She doesn't care for candy—she says it is too

Each night upon the closet shelf she puts away

"Who is this charming little maid?
I long to grasp her hand!"
She's the daughter of Mr. Nobody,
And she lives in Nowhereland!
—Helen Hopkins, in St. Nicholas.

The King of Spain.

This is a picture of a real little King

only nine years old. It is Alfonso

XIII. of Spain. He has had a very

passed through many serious illnesses,

but now he is a fairly healthy boy, with

little King has fair, curly hair and blue

eves, and is very delicate in appearance.

but is intelligent and determined, and

quite well aware of the fact that he is

the most important person in Spain.

the better to teach him military tactics,

a regiment of small boys has been

formed, of which the little King is com-

mander. The Summer Palace is built

the water with bare feet, just like any

other little boy, but is always under the

little Kings have to mind mother, you

A Talking Watch.

Would it not seem strange to hear a

watchmaker in Geneva, Switzerland, has

made and patented a watch that can speak.

It calls out the hours in an audible tone

which can be heard in an adjoining room.

the old-fashioned repeater, whose ham-

mers and springs have been replaced by

articulated sounds indicating the hour.

being an exact reproduction of those

produced on a cylinder by the human

Food for Production of Milk.

erly varied to suit the special circum-

stances of each case; and thus, when

we are feeding cows for butter, especially, the feeding may need to be

different, to some extent, from that most

suitable for milk only. It is true that

the foods richest in fat are desirable for

butter making, but, as milk need not be

so rich in fat as for butter making when

it is made or sold for domestic uses, and

as the fatty foods are the most costly, it

is wise to choose cheaper foods for milk

only, and those that have less of the

costly fat in them. Buckwheat, for

instance, is one of the best milkmaking

foods; but, having only a fourth as much fat as corn, it is cheaper, and yet

will yield as much money in milk as

the dearer corn. This is an instance of

the advantage of understanding this

matter of feeding, by which money is

made by using cheap foods. Buck-wheat is one of the best foods for quan-

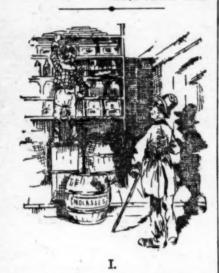
His soldiers are his chief delight: and

"I wish I could find a nice, fat bug."

A Question of Pedigree.

"Now, who is that?" asked a dignified hen;
"That chicken in white and gray?"
She's very well dressed, but from whence did she And her family, who are they?

"She never can move in our set, my dear,"
Said the old ben's friend to her, later;
"I've just found out—you'll be shocked 



has been seen.

She remembers to say "Thank you," and "Yes, ma'am, if you please;"

And she never cries. nor frets, nor whines; she's ne'er been known to tease. Errand boy Tom on a lemon box stands, Searching for candy with light-fingered

Behind, bringing cane, and a grudge in his mind Comes Old Mr. Cute, with purpose



By Gravy! that kid should a lesson b taught, "And now for revenge, sweet revenge,

that I sought." So lifting his cane, as sly as a fox, He quickly upsets the said lemon box.



Up flew poor Tom's feet and downward

Toward a cask of molasses, as if he'd took aim;

Which shot out kersmack! knocking Cute over flat.

So he got his revenge, very sweet, too, at that.

You Never Can Tell What Will Happen When the Weather is Hot.





-New York World.

# THE DAIRY.

Skimmings Heavy salting will destroy the flavor

of good butter. Ripen the cream uniformly; souring is not ripening. The longer a cow goes in milk the smaller and richer the milk.

A cow in poor condition will be sure to give her owner poor milk. In salting butter the taste is of more

importance than preservation. By curing milk before setting the animal and other odors can escape, An Eastern correspondent asks whence the name the "Wild and Woolly

The young heifer should not be allowed to go dry too early the first year of milking. Will not someone help us out on this

It appears doubtful whether the worst

enemy to the dairy business is the oleo man or the maker of poor butter. THE CHILDREN'S SCRAPBOOK In making butter, if color is to be used, it should be added to the cream

before the churning is commenced. If you have a careless hired man he may accomplish something in the field, but keep him away from the dairy.

The Pennsylvania Experiment Station has found creameries in that State 'Now, look here," said the mother, from the where the loss of butter fat amounted "If you want any breakfast you must get up and scratch."

Retail dairying pays, but the man who deals direct with the consumer must be businesslike and gentlemanly and wear clean clothes.

There is no profit in a 200 pounder. sweet!
She loves to study lessons—her sums are always
Food, labor and interest amount to \$40 right:
And she gladly goes to bed at eight every single per year, and the 200 pounds of butter at present prices fails to meet the bill. Her apron's never tumbled, her hands are always clean; With buttons missing from her shoe she never The 250 pounder leaves a small profit and the 300 pounder pays.

In cleaning the churn and dairy utensils, a brush will be found much more useful than a cloth. All vessels Each night upon the closet shelf she pattern her toys;
She never slams the parlor door, nor makes the slightest noise;
But she loves to run on errands and to play with little brother,
And she's never in her life been known to disobey her mother. for milk or cream should first be rinsed in cold water to which has been added washing soda, or a small quantity of borax. They should then be washed with warm water and scalded with boiling water. Small wooden utensils should be kept in cold water.

Prince Edward Island, says the Watchman, published at Charlottetown, has now 30 cheese factories, and the net average for milk for the last three years has been 70 cents per 100 pounds. The same paper says of Mr. T. J. Dillon; the hard time trying to grow up, for he has Dairy Superintendent for the island: "He has succeeded in a very short time in changing nearly 3,000 farmers into probably as many successful dairymen." possibly a long reign before him. The

> A small dairy managed by the owner should produce a very much higher per cent. of income than a large one. The feeding of a small dairy can be done much more economically than the feeding of a large one, it being easier to provide a variety of food, and the owner being a more interested workman than a hired man, gives intelligent thought and careful study to each operation, from feeding the calf to the marketing

In Bavarian Algau the creameries at doubt cleaner and keeps better than hundred for milk the year round, w the ordinary carefully strained milk of Schleswig-Holstein. It is stated that in Switzerland the milking is done with the bent thumb and first two fingers, so that the milk cannot come in contact with the hand.

The little specks of white in butter are nothing more than particles of sour close to the water's edge, and Alfonso milk; better, perhaps, to say flakes of loves to play in the sand and wade in pretty nearly pure curd, found most numerously in buttermilk from a churning of sour-quite sour-cream, the watchful care of a corps of attendants, souring having coagulated the casein, who are held personally responsible for and these specks are about pure curd. It is a great deal better to have them His mother, the Queen Regent, like float off in the fluid than to remain in all mothers, loves her little boy very the butter, for their presence there will much, but she rules him wisely (even decrease its price in the market, and it is a sign that the butter itself is deficient know) and gives him much good advice in desirable qualities.

Specks in Butter. EDITOR AMERICAN FARMER: I SAW in the May issue of your paper, an watch call out the hours? And yet a article headed "The Cause of White Specks in Butter." I conclude the writer refers merely to Winter churning, as we have no occasion to warm cream in the Summer, hence no chance It is an application of the phonograph to of making them by heat. My experience has been that in Summer the specks will form in 12 hours after seta disk of vulcanized India rubber. As ting the milk. They will lie on top of the the point moves over the surface, it emits cream and are white. I pick them and drop into hot water and they will not melt like cream, but are tough and leathery; rolled it between the thumb and finger they have the appearance of bits of white paper. I have failed to find the cause, or a remedy. Will someone who has had experience with this While the feeding of a cow is subject to the main principles of nutrition, it is always the case that these may be propspecky trouble" give us some advice

on how to treat it? Your article says "wash out the specks." Yes, so we can; but, then, here is another trouble: Too much washing makes the butter white and oily, hence unfit for market. As the old English man said : "It is jest like hen ile."-Miss DRAKE, Brunswick, O.



WINTER! DAIRYING.

A Way to Lift Mortgages. Paper by Chas. Beaner, of Grand Junction

No branch of farming has remunerated the farmer as well as dairying, and happy he who has been fortunate enough to live he who has been swinnate enough to live near a cheese factory or creamery, and patronize same 12 months in the year. He is the only man that went through our past panic of hard times without serious embarrasement. We farmers of Greene County have not woke up to the interests of Winter dairying-hardly to

Summer dairying.

We are tilling the soil from early until late, and don't find time to care for the dairy. As the dairy works so profitably with our mixed farming, while our land is adapted for grazing, good meadow and pasture, hence good for stock raising and dairying, why not care for the cow? She is a wonderful condenser of rough feed into a valuable commercial product, a product that always brings its commercial value when properly manipulated by the creameryman. Why let our neighbors from Illinois and Wisconsin buy our cows, grain and hay, and ship same to their States, and condense into the fine dairy products? Now if this were not a paying business, they would not continue it. We must breed and feed for dairying and cull our herds. Those that are

not paying their keeping must go. We must keep our herds in good thriving condition 12 months in the year. Have the cows come fresh in the Fall season, and with proper feed and care you may have a profitable Winter dairy cow. In regard to feeding to produce best flavor of butter in Winter, nothing is equal to corn fodder cut up before frost, and sheaf oats cut on a feed cutter, with good clover hay. This with a mild ration of equal parts of corn ground with cobs, oats and bran, fed twice a day, will make an excellent feed for Winter dairying. Keep the cow well housed, not leave her out in the cold all day, as it would require too much of the above ration to keep her warm.

Our Experiment Station claims that 100 pounds of dry matter will produce 74 pounds of milk, or three and onefourth pounds of butter, and one pound increase of live weight, while 100 produce one pound of butter will produce three pounds of beef. Farmer A. has a dairy of 18 cows, that are producing less than 200 pounds of milk daily, while B. has 17 cows that produce 400 pounds of milk a day.

Now we can at once see that B.'s herd s the more profitable. Mr. B. has fed as in the foregoing, and is getting good returns, while A. lets his cows rough it out in the cold all day; rough feed and poor shelter. He thinks the corn and oats ne would feed would be a loss. You can see A. is not a practical dairyman. This his statement and check will show at the end of the month. While B.'s check will amount to \$80, A's will be about \$35.

Now if we had 100 practical dairy, forbid straining the milk, and require men like B. with a herd of 20 cows that it be delivered just as milked, in each producing 20 pounds of milk each order that they may judge of the cleanli- per day for 300 days in the year, makness exercised in the stable by each ing 6,000 pounds of milk per year, the Kittaniny, though it is subject to patron. Their unstrained milk is with- this at an average of 85 cents per the rust, which, however, may be avoided make over \$50 per cow.

Just think of this amount paid out in your immediate vicinity. How it would that fertilizers, instead of stable manure, lift the mortgages from the farms, build tend to lessen this proclivity to this disup our towns and homes, and enhance ease; and more space, as much as 30 the value of our land.

soon wake up to their interests, and patronize their creameries and cheese factories, so we will stand second to none in this grand dairy State, which has carried away more honors at the National Exposition than any other State in the

### The Cream Separator.

The value of the cream separator is more apparent now that it is made of such a small size that it is adaptable to a dairy of as few as five cows, or even of three good ones. And the old fashion of using a large dog or a sheep to run a churn may be resuscitated and this handy animal put in harness to work the separator. It occupies about the same time as an ordinary churning to take the cream from the milk of three to five cows, and it is far easier to work a separator in this way by a sheep of 150 pounds than by a person of the same weight. By and by it is possible that the convenience of this addition to a dairy may give rise to a new breed of sheep especially adapted to the work, or at least to a revival of interest in some of the large breeds, as the Lincoln, which is easily brought to a weight of over 300 pounds. The economy of this method of sepa-

rating the milk from the cream is more evident at this season, when the heat of the weather adds to the cares of the dairy man or weman. As the work is done as soon as the milk is brought in from the milking, there is no more use for the pans for setting it, only for the cream jar and the cold closet in which this is kept, and the dairy thus becomes much less of a storage for milk than a mere workshop to finish it off-hand, without the former troublesome methods of caring for the milk. If it had fortunately happened that the butter extricator had proved itself a full success, the butter-maker would have been still further relieved from the most laborious part of his business. But the cream separator does away with more than half the work, and thus deserves a place in even a small dairy of four or

It is a great mistake to allow the milk to stand in the stable any time at all number of baskets at 1,500,000, upon after it is drawn from the cow. This is which the farmers will realize \$750,000, far greater when it is cooled there, as is a revenue much greater than for the

# THE ORGHARD.

A novel saw for felling trees consists of a series of platinum wires made white hot by electric currents.

Georgia claims to be the largest peach-growing State in the Union. Her peach crop in a good year has been quoted at 6,500,000 bushels. Permanent sod, without fertilizing, is

an injury to the orchard. This has been proved in the experience of nearly every esful orchardist. A sod orchard should be closely vatched, as it may begin to fail sud-

denly. Barn manure may be applied to old orchards with good results. The Hale Georgia Orchard and Nur-

sery Company, Houston County, Ga., owns the largest peach orchard in the world, a single block of 100,000 trees. The best preventive of black knot on plum trees is spraying with Bordeaux

mixture. The only cure is to cut it off and burn it, and then paint the wound with linseed oil. Tar has been used for tree wounds with excellent results. It is by many considered the best material used. Coal

tar and carbolic acid have been com-

bined with entire success.

California fruit growers feel encouraged at the success of the yellow scale killer introduced two years ago. It is a minute insect, known as the Chalcid fly, which destroys the larva of the yellow scale.

When well manured and cultivated, the Cuthbert raspberry will yield a pint of very fine fruit to a stool at each picking, and three pickings may be made. This is equal to over 20 quarts to a square rod, or 3,500 to an acre.

Pear trees, both dwarf and standard. love good ground; if a little inclined to clay so much the better, though any fair garden soil will suit them. But they must not be crowded, even if dwarfs; nine or 10 feet apart is close enough.

Better work can be done on the trees with the thumb and finger than with the pruning knife and saw. Disbudding saves all the strength and vigor of the pounds of dry matter fed to the steer tree that would have gone into the surwill produce 10 pounds gain of live plus growth from being wasted, as well weight; in other words, food that will as much after labor to cut away what should not have been permitted to grow.

> Keep down the suckers (sprouts) that usually start up around the trunks of fruit trees. They cut off much nourishment the trees need and are a sad picture of neglect. Many newly-set trees will now be benefited by being mulched with grass or weeds, cut and laid around the trunk so as to cover a space of two or three feet around each tree.

Only three canes should be left in a aspberry stool, and just now is the time to select the best of the new ones and cut or pull out all the rest. Then there will be a good growth and strong plants for next year. As soon as the fruit is gathered, the old canes should be cut away, and the new ones tied to the stakes, so as to prevent injury by high winds.

The best variety of the blackberry is by spraying the plants with the Bordeaux solution twice before the fruit sets. Experience with this plant goes to show square feet to a stool of five canes, I trust Greene County farmers will will be an additional help to avoid this disease.

### Treatment of an Orchard. The treatment of an orchard is a

subject of importance and should be well studied. If the land is so wet that it needs drainage, it is not fit for use on this account. The land must then be drained, or the trees will not thrive. The roots will run into the drains and choke them, making double mischief, for the land will soon be as wet as before and the labor and money will be lost. Clay land is not the best for an orchard: a lightish, gravelly land is better, and still more so if it is limestone, It would be better to set the orchard far from the house in lighter land than in clay because of its nearness. If the land is clay, but not wet, it may be mproved by subsoiling it; that is, by lowing in the furrow of a common plow and immediately after it with a par plow-that is, one with a long bar like a coulter that will break the subsoil and loosen it. This might be done in a strip between the rows of trees and about six feet wide, but near the trees the land should be plowed no deeper than a few inches, lest the small roots be broken and the trees checked in growth. It is a good thing for an orchard to be sown with clover and pastured by swine or sheep.

### Hot Water for "Yellows."

It is claimed by a correspondent in Mehan's Monthly for June that peach trees may be cured of the "yellows" by pouring boiling water around them. This disease, he states, is produced by root-fungus, and hot water is a well known remedy for all diseases the result of root-fungus. The boiling water, though cooling somewhat in its passage through the ground, reaches the roots sufficiently hot to destroy the fungus without injuring the root tissues. This treatment is, unfortunately, only practicable for trees growing near the house, where they are convenient to the hotwater range.

### Peaches in Delaware.

past 10 years.

# Hartford Bicycles



Elegant in Design Superior in Workmanship

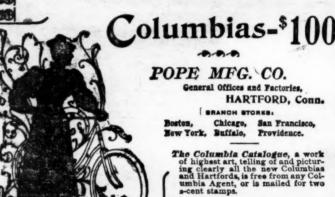
Strong and Easy Running

Hartfords are the sort of bicycle most

makers charge \$100 for. Columbias are far superior to so-called

"specials," for which \$125 or even \$150 is asked. It is well to be posted upon the bicycle price situation.

The great Columbia plant is working for the rider's benefit, as usual,



DISTRICT CYCLE CO., Agent for Columbia and Hartford Bicycles,
452 PENNSTLY ANIA AVENUE, WASHINGTON, D. C.

and patentability of inventions and validity of patents. Rejected applications prose-cuted. All business relating to patents

promptly attended to.

Lemon Building, Washington, D. C. Opinions rendered as to the novelty ATTORNEY AT LAW AND SOLIGITOR OF

GEORGE E. LEMON.

### PLUMS IN MISSOURI.

Result of This Season's Experiments. EDITOR AMERICAN FARMER: The

growing of the finer European plums and their progeny produced in this country proving unsuccessful, our best natives have been sought and improved, so that we can at least have plums. Growing about 40 varieties on my place, most of which are fruiting, gives me a chance to test them.

The Marianna and Pottowattamie are already condemned, and no doubt some more will be discarded.

Among the most promising are Burbank No. 1 and No. 2. Quackenboss and Niagara (a New Yorker) are good. Richland, a strike between a prune and our common damson, is also fine. Up to this time we have no native

that surpasses the Wild Goose. Although not so good in quality, it is the plum for the million. When the season is over I may give a general report on them all. We read frequent advice to plant the Wild Goose near other plumtrees, as they are not self fertilizing.

The reason of this is because there are two distinct Wild Goose plum-trees on the market-the one self-fertilizing and the other not. I got mine from headquarters soon

after it first came out, and know it genuine.

I have two trees in one place and three in another, about 100 yards apart. All these trees are full and regular bearers, while there is not another kind of plum tree within 200 yards. One of my choicest is the Louisa, one that ripens about a month later than the wild goose, nearly as large, a dark red all over, with a nice bloom, sweet and well flavored. All to whom I have given it pronounce it superior. It is about as near free from the effects of the curculio as any, for I have seen it clean and sound on a tree alongside of a Lombard on which all were stung and failed to come to maturity. That the Burbank is free from the little turk is a mistake. Kelsey's Japan and Sat-suma, that are lauded in the South, are no good here. I have had them for 10 years, and not one plum yet; in fact, the trees and grafts on other trees are all

APPLES.

The apple crop here is the greatest ! have ever seen. After a severe thinning. the trees are still bending beneath their loads .- S. MILLER, Bluffton, Mo.

### Spattering of Milk. This nuisance in milking is caused by

ome scales of the skin which are sening from the end of the teat. This is the way the skin wears off and is replaced by a new growth, and if the scales do not quite drop off they remain and interfere with the escape of the milk in a clear stream. The milk is then spattered as complained of. This is prevented or stopped immediately by scratching the end of the teat with the finger-nail, by which the partly-loosened scale is removed. Sometimes it is better to have a small piece of smooth pumicestone, or of sandpaper, in the pocket, and smooth the end of the teat by rubbing it a little with this,

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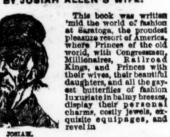
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[EXTRACT.]

They say there is a sight of flirtin' done at Saratogs. I didn't hear so much about it as Joshal did, naturally there are things that are talked of more amongst men than women.

I told him from the first on't that he'd better let it entirely alone.

But he seemed sot. He said "it was more fashing—able amongs" married men and winnen than the more single ones," he said, "it was detail fashionable amongst pardners."

"Wall," says I, "I shall have nothin' to do with it."

There was a young English girl aboardin' to the same place wo did. She dressed some like a young man, carried a cane, etc. But she wax one of the upper 10, and wax as pretty as a pleture, and I selfosian had kinder so this eyes on her as bein' a good one to try his experiment with.

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